PHASE I SITE ASSESSMENT REPORT

FOR

2 WOODBINE STREET PROPERTY
TAUNTON, MASSACHUSETTS
RTN 4-13850

PREPARED BY:

RESOURCE CONTROL ASSOCIATES, INC.
474 BROADWAY
PAWTUCKET, RI 02860-1377
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OCTOBER 16, 1998

PREPARED FOR:

MR. PAUL DONNELLY
CITY OF TAUNTON BUILDING DEPARTMENT
CITY HALL
15 SUMMER STREET
TAUNTON, MA 02780-3430

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 4 - 13850

A. SITE LOCATION:

Site Name: (optional)

Street: 2 Woodbine Street

Location Aid: Oak Street and Oak Avenue

City/Town: Taunton

ZIP Code: 02780-4027

Related Release Tracking Numbers that this Form Addresses: N/A

Tier Classification: (check one of the following) ☐ Tier IA ☐ Tier IB ☐ Tier IC ☐ Tier II ☑ Not Tier Classified

If a Tier I Permit has been issued, state the Permit Number:

B. THIS FORM IS BEING USED TO: (check all that apply)

☑ Submit a **Phase I Completion Statement** pursuant to 310 CMR 40.0484 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase II Scope of Work** pursuant to 310 CMR 40.0834 (complete Sections A, B, C, G, H, I and J).

☐ Submit a final **Phase II Comprehensive Site Report and Completion Statement** pursuant to 310 CMR 40.0836 (complete Sections A, B, C, D, G, H, I and J).

☐ Submit a **Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Remedy Implementation Plan** pursuant to 310 CMR 40.0874 (complete Sections A, B, C, G, H, I and J).

☐ Submit an **As-Built Construction Report** pursuant to 310 CMR 40.0875 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Final Inspection Report and Completion Statement** pursuant to 310 CMR 40.0878 and 40.0879 (complete Sections A, B, C, E, G, H, I and J).

☐ Submit a periodic **Phase V Inspection & Monitoring Report** pursuant to 310 CMR 40.0892 (complete Sections A, B, C, G, H, I and J).

☐ Submit a final **Phase V Inspection & Monitoring Report and Completion Statement** pursuant to 310 CMR 40.0893 (complete Sections A, B, C, F, G, H, I and J).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. RESPONSE ACTIONS:

☐ Check here if any response action(s) that serves as the basis for the Phase submittal(s) involves the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe Technologies:

D. PHASE II COMPLETION STATEMENT:

Specify the outcome of the Phase II Comprehensive Site Assessment:

☐ Additional Comprehensive Response Actions are necessary at this Site, based on the results of the Phase II Comprehensive Site Assessment.

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class B Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ Rescoring of this Site using the Numerical Ranking System is necessary, based on the results of the final Phase II Report.

E. PHASE IV COMPLETION STATEMENT:

Specify the outcome of Phase IV activities:

☐ Phase V operation, maintenance or monitoring of the Comprehensive Response Action is necessary to achieve a Response Action Outcome.
(This site will be subject to a Phase V Operation, Maintenance and Monitoring Annual Compliance Fee.)

☐ The requirements of a Class A Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

SECTION E IS CONTINUED ON THE NEXT PAGE

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 4 - 13850

E. PHASE IV COMPLETION STATEMENT: (continued)

☐ The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

F. PHASE V COMPLETION STATEMENT:

Specify the outcome of Phase V activities:

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

G. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with the information contained in this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> *if Section B indicates that a* ***Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that a* ***Phase II Scope of Work*** *or a* ***Phase IV Remedy Implementation Plan*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an* ***As-Built Construction Report*** *or a* ***Phase V Inspection and Monitoring Report*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Robert C. Atwood LSP #: 1481 Stamp:

Telephone: 401-728-6860 Ext.:

FAX: (optional) 401-727-1849

Signature: Robert C. Atwood

Date: 10/26/98

COMMONWEALTH OF MASSACHUSETTS
ROBERT C. ATWOOD
No. 1481
REGISTERED
LICENSED SITE PROFESSIONAL

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 4 - 13850

H. PERSON UNDERTAKING RESPONSE ACTION(S):

Name of Organization: City of Taunton Building Department

Name of Contact: Paul Donnelly Title: Environmental Coordinator

Street: City Hall, 15 Summer Street

City/Town: Taunton State: MA ZIP Code: 02780-3430

Telephone: 508-821-1015 Ext.: _____ FAX: (optional) _____

☐ Check here if there has been a change in the person undertaking the Response Action.

I. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTION(S): (check one)

☑ RP or PRP Specify: ○ Owner ◉ Operator ○ Generator ○ Transporter Other RP or PRP: _____

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Undertaking Response Action Specify Relationship: _____

J. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTION(S):

I, Paul Donnelly, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Paul K Donnelly (signature) Title: Environmental Coordinator

For: City of Taunton Building Department (print name of person or entity recorded in Section H) Date: October 26, 1998

Enter address of the person providing certification, if different from address recorded in Section H:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

PHASE I – INITIAL SITE INVESTIGATION REPORT
2 WOODBINE STREET PROPERTY
TAUNTON, MASSACHUSETTS
RTN 4-13850

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2 WOODBINE STREET PROPERTY
TAUNTON, MASSACHUSETTS
RTN 4-13850

EXECUTIVE SUMMARY

This Phase I – Initial Site Investigation report concerns the disposal site located at 2 Woodbine Street, Taunton, Massachusetts, identified by the Massachusetts Department of Environmental Protection (MADEP) as Release Tracking No. 4-13850

The MADEP inspected the disposal site in October 1996, and identified violations of the wetlands protection and solid waste regulations. The MADEP entered into an Administrative Consent Order (ACO-SE-97-R001-46) with the owners of the disposal site, and the City of Taunton in September 1997. The ACO stipulated that assessment activities be conducted in accordance with the landfill regulations. Initial subsurface investigations, which were completed in December 1997, identified contaminants dissolved in groundwater at concentrations exceeding reportable concentrations. The parties of the ACO met in January 1998 and agreed to proceed under provisions of Massachusetts General Laws (MGL) c. 21e and the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000), with the understanding that the ACO would be revised to reflect the agreement.

Based on the decision to manage the disposal site under the MCP, a Release Notification Form was submitted to the MADEP Bureau of Waste Site Cleanup on May 1, 1998 to meet the requirements for "120-day notifications."

The groundwater categories applicable to the disposal site are "GW-2" and "GW-3." Based on disposal site activities and use, the applicable soil categories are "S-1," "S-2," and "S-3."

In addition to research of the disposal site and vicinity, Resource Controls performed test pits and soil borings, and installed monitoring wells at the disposal site, in two phases, in December 1997 and in March-April 1998. An evaluation for Immediate Response Actions (IRAs), based on the results of soil and groundwater analysis, show that no Imminent Hazards, condition of Substantial Release Migrations, or other time-critical site conditions are present at the disposal site and therefore, no IRA is required. However, the extent of contamination has not been fully delineated, and site conditions do not meet a condition of "No Significant Risk" as defined in the MCP.

Based on the foregoing, a Response Action Outcome (RAO) has not yet been achieved. However, the Phase I investigation provided sufficient information to meet the requirements of the Numerical Ranking System and Tier Classification process outlined in the MCP and additional Response Actions are necessary at the disposal site to attain a condition of "No Significant Risk."

PHASE I – INITIAL SITE INVESTIGATION REPORT
2 WOODBINE STREET PROPERTY
TAUNTON, MASSACHUSETTS
RTN 4-13850

SECTION 1.0
INTRODUCTION

The Massachusetts Department of Environmental Protection (MADEP) inspected the disposal site on October 22, 1996, and identified conditions that represented violations of provisions of the wetlands protection act and regulations, and the solid waste regulations. Subsequently, on September 23, 1997, the MADEP entered into an Administrative Consent Order (ACO-SE-97-R001-46) with the owners of the disposal site, and the City of Taunton. The ACO included requirements that assessment activities be conducted in accordance with the landfill regulations (310 CMR 19.000).

Initial subsurface investigations were completed during December 1997. In consideration of the findings of the initial investigations, the parties of the ACO agreed during a meeting held at the MADEP Southeast Regional Office on January 16, 1998, to proceed under provisions of Massachusetts General Laws (MGL) c. 21e and the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000), with the understanding that the ACO would be revised to reflect the agreement.

The initial investigations completed demonstrated that disposal site conditions met the "120-day" notification requirements of the MCP. Based on the date of the draft report of the initial site investigations (January 2, 1998), which the MADEP agreed to accept as the date the City of Taunton obtained knowledge of disposal site conditions, the City submitted a Release Notification Form (BWSC-103) to the MADEP on May 1, 1998. The draft report has been incorporated into this Phase I report.

1.1 PURPOSE

Pursuant to the request by the City of Taunton, Resource Control Associates Inc., (Resource Controls) has prepared this Phase I – Initial Site Investigation Report in accordance with the ACO and provisions of the MCP (310 CMR 40.0480) for the Site assigned Release Tracking No. 4-13850 by the MADEP.

As discussed above, the initial investigations were conducted to meet the requirements of the solid waste regulations and the ACO. Activities conducted subsequent to the January 1998 meeting between the parties of the ACO were conducted to fulfill the requirements of the MCP and the ACO, rather than the solid waste regulations. The specific objectives of this investigation were to determine:

- the general nature and extent of the release(s);
- whether disposal site conditions might pose an Imminent Hazard to safety, health, or the environment;

- whether any further risk reduction measures are appropriate at the disposal site; or
- whether a demonstration could be made that a condition of "No Significant Risk" exists, or has been achieved, at the disposal site; and
- to compile appropriate information to allow Tier Classification of the disposal site.

1.2 SCOPE OF WORK

The following activities were performed to complete the Phase I – Initial Site Investigation:

- Resource Controls conducted a comprehensive inspection of the disposal site and reconnaissance of surrounding properties.
- Resource Controls performed a total of 11 test pits, and ten soil borings and installed monitoring wells in each of the borings. Three of the seven wells were installed on bedrock, and a bedrock core was obtained from one boring. Soil samples collected during initial drilling operations were screened in the field for volatile organic compounds (VOCs) using a portable photoionization detector (PID). Soil samples obtained during the subsequent drilling operations were screened in the field for VOCs using a PID, and selected samples were submitted to the laboratory for analysis for VOCs, extractable petroleum hydrocarbons (EPH), and polynuclear aromatic hydrocarbons (PAHs).
- Groundwater samples obtained from monitoring wells during the initial investigation were tested in the field for pH, conductivity and temperature, and were submitted to the laboratory for analysis for RCRA-8 metals, and copper, iron, manganese, and zinc; alkalinity, chloride, chemical oxygen demand, total cyanide, dissolved oxygen, total dissolved solids, nitrate nitrogen, and sulfate; and for VOCs. Groundwater samples obtained during the subsequent sampling event, were analyzed for VOCs, and EPH with PAHs.
- Top-of-casing elevations were surveyed and depth-to-water measurements were taken with an oil-water interface probe to assess whether nonaqueous-phase liquid petroleum was present and determine the horizontal direction of groundwater flow.
- Resource Controls completed this Phase I – Initial Site Investigation report in accordance with MCP (310 CMR 40.0480), and evaluated whether Imminent Hazards, condition of Substantial Release Migrations, or other time-critical site conditions are present at the disposal site
- Resource Controls prepared a Phase I Completion Statement in conjunction with the Phase I Report.

In addition to the field investigations and documentation summarized above, the following research has been conducted:

- MADEP file review for the disposal site, potential sources, and abutters.
- Interviews and public file reviews of the City of Taunton Assessor's Office, Building Department, Engineering Department, Fire Department, Health Department, Sewer Department, and Water Department.
- Examination of Taunton Assessor's files, Registry of Deeds records, aerial photographs, and Polk's city directories for property use and ownership information;
- Review of a Massachusetts Geographic Information System (MAGIS) Site Scoring Map prepared for the disposal site; and
- General research and investigations of utilities, groundwater use and general environmental settings in the vicinity of the disposal site. This research included a review of water department records and a survey of area properties to determine if any private groundwater pumping wells are present in the vicinity of the disposal site.

1.3 PREVIOUS SITE INVESTIGATIONS

No site investigations are known to have been completed for the disposal site.

SECTION 2.0
GENERAL DISPOSAL SITE INFORMATION

2.1 RELEASE TRACKING NUMBER

The MADEP assigned Release Tracking Number 4-13850 for the disposal site on May 4, 1998.

2.2 LOCATION OF THE DISPOSAL SITE

The site locus is shown on Figure 1. The property is depicted on the Site Scoring Map (Fig. 2), Plat Map (Fig. 3), and Site Plan (Fig. 4).

The disposal site is located on a portion of 22 contiguous properties located at Woodbine Street, Oak Street, Oak Avenue, and Vinson Street, in the City of Taunton, Bristol County, Massachusetts 02780-4027. Although shown on the Assessor's Map, Woodbine Street is a "paper street" consisting of an access road to the disposal site. The City of Taunton Assessor's Map shows that the disposal site is situated on portions of Lots 34 and 39 in Block 35, on Plan 17, in Ward 7, covering a combined area of approximately 12.72 acres. The boundaries of the properties located within the disposal site are depicted on Fig. 3. The boundaries of the disposal site, to the extent they have been defined by assessments conducted to date, and the locations of on-site buildings and monitoring points (test pits and monitoring wells) are depicted on Fig. 4.

The disposal site is located at a latitude of 41° 53' 40" North, and a longitude of 71° 6' 50" West. The Universal Transverse Mercator (UTM) Coordinates of the disposal site are 4,640,000 m (meters) northing and 323,600 m easting.

2.3 SITE DESCRIPTION

The parcels on which the disposal site is located is currently vacant, with a past use as an unlicensed landfill. Three residences and an indoor skating rink are located on other parcels which form a part of the 22-parcel property.

2.4 ON-SITE WORKERS

The dwellings located at 1, 2 and 80 Woodbine Street, on parcels adjacent to the disposal site, are single-family residences. The two co-owners of the properties operate a roller skating rink located adjacent to disposal site, at 4 Woodbine Street. Landfilling operations formerly conducted on the disposal site have ceased. No structures are located on the disposal site itself. Based on the foregoing, there are currently no on-site workers.

2.5 RESIDENTIAL POPULATION WITHIN ONE-HALF MILE OF THE DISPOSAL SITE

Based on information provided by the U.S. Environmental Protection Agency Geographic Information Query System (http://www.epa.gov/r10earth), accessed on June 9, 1998, the population density within one mile of the disposal site is approximately 3,437 per square mile. Therefore, approximately 2,700 people reside within one-half mile of the disposal site.

2.6 LAND USES SURROUNDING THE DISPOSAL SITE

According to the City of Taunton Zoning Map (updated August 1996), the disposal site and nearby properties are located within an area zoned as "UR-2" (Urban Residential).

The properties abut Oak Avenue to the east and Oak Street to the south. The Maxham School (a City of Taunton elementary school) abuts the disposal site on the south and east, and multi-family residences owned by the City of Taunton Housing Authority abuts the disposal site on the west. Remaining properties abutting the disposal site on the north, east and south are single family residences. A multi-family residence, also owned by the City of Taunton Housing Authority, is located adjacent to the disposal site across Oak Street. No "Institutions," as defined by the MCP, exist within 500 feet of the disposal site.

Resource Controls inspected files at the Southeast Regional Office of the MADEP in Lakeville, Massachusetts on May 27, 1998. The lists of release sites, updated on May 5, 1998, showed that one site was identified within one-quarter mile of the disposal site: RTN 3-13311, the Maxham School property, abutting the properties on which the disposal site is located, at 141 Oak Street. On August 26, 1997, soil contamination was observed upon removal of two No. 2 fuel oil underground storage tanks. Approximately 63 cubic yards of soil was removed, and confirmatory analysis showed that a Response Action Outcome had been attained. No groundwater was encountered during the excavation. Based on the foregoing, conditions at the Maxham School site will not likely affect the disposal site.

2.7 NATURAL RESOURCES

As shown on the Site Plan (Fig. 4), an area of wetlands is located in the south central portion of the property, southwest of the skating rink. No vernal pools, ponds, lakes, streams, rivers, or reservoirs are located on the disposal site.

As shown on the attached Site Scoring Map (Fig. 2), Cobb Brook with associated wetlands is the nearest off-site body of water, located more than 500 feet northeast of the disposal site. No vernal pools, ponds, lakes, rivers, or reservoirs are located within 500 feet of the disposal site. The Site Scoring Map shows that none of the following natural resource areas are located on or within 500 feet of the disposal site: Zone II areas, Interim Wellhead Protection Areas, Zone A areas, Potentially Productive Aquifers, Areas of Critical Environmental Concern, Sole Source Aquifers, protected open space, fish habitats, or habitats of Species of Special Concern or Threatened or Endangered Species.

City of Taunton Water Department records show that all properties within 500 feet of the disposal site are connected to the municipal water supply system. In addition, the Water Department completed a survey of residences in the vicinity of the disposal site during March through May, 1998. A questionnaire on water use was sent to Water Department customers. On May, 1, 1998, the Water Department visited and inspected the properties for which responses were not received. The results of the survey show that no private water wells are known to exist within 500 feet of the disposal site. The questionnaires and report of inspection are attached as Appendix E.

SECTION 3.0
DISPOSAL SITE HISTORY

3.1 OWNER/OPERATOR AND OPERATIONS HISTORY

The properties on which the disposal site is located are owned by Leonel S. and Christine Rose, who purchased the properties in 1957 and 1961.

Based on information reviewed at the Bristol County, North District Registry of Deeds, the portion of the properties purchased in 1957 was formerly owned by Charles Ducharme, who purchased the parcel from Charles Alger in 1943. Charles Alger purchased the parcel from Florence Davol in 1920.

The portion purchased in 1961 was formerly owned by Ralph Davol. No back references were noted in the deed book listing, and the grantee/grantor books relative to this parcel were not clear.

Building permit records from 1946 through 1997 were reviewed at the City of Taunton Building Department. A permit was issued to Leonel Rose on May 9, 1950 to erect a roller skating rink platform. Additional permits were issued in 1950 to repair and "add to" an outdoor skating rink. Additions to the skating rink were permitted in 1951 and 1952. Additional permits were issued in 1956 (two-car garage at 2 Woodbine Street), 1972 (dwelling at 80 Woodbine Street), 1976 (repair of dwelling at 2 Woodbine Street), and 1987 (two-car garage at 80 Woodbine Street). The City of Taunton Assessor's records show that the skating rink was constructed in 1951, the dwellings at 1, 2 and 80 Woodbine Street were constructed in 1930, 1950, and 1981, respectively.

Polk's city directories listed the occupant of 1 Woodbine Street as Charles Mansfield in 1927 and 1928, and Manuel Lima in 1929. The address is shown to be vacant in 1930 and 1933. The address was occupied by Francis Silver in 1934 through 1937, and James Kenyon in 1938 and 1939. John Hogan occupied the address in 1941, and Leonel Rose, one of the current owners, is shown to occupy the address in 1942. From 1952, the address of Leonel Rose was shown to be 2 Woodbine Street. The skating rink was first listed in 1955 as 6 Woodbine Street, and was listed in 1960 as vacant. The skating rink was listed as 4 Woodbine Street in 1965, 1975, and 1980. The 1975 directory shows Allen Figueirdo as the occupant of 8 Woodbine Street, and the 1980 directory shows Allen Figueirdo as occupying 80 Woodbine Street.

Aerial photographs were reviewed at the City of Taunton Engineering Office. The aerial photograph from July 9, 1951 depicts the skating rink and the dwellings at 1 and 2 Woodbine Street. The remainder of the property appears to be wooded, with the exception of a clearing and a roadway leading into the southwest corner of the property from Oak Street several hundred feet west of Anderson Avenue. A photogrammatic plan derived from an aerial survey

conducted on April 16, 1968 depicts an access roadway leading into the disposal site from Oak Street, then decreasing about 30 feet in elevation and extending to the skating rink and out to Oak Avenue. Wetlands are depicted near the center of the disposal site, south of the access roadway. An upland area, rising approximately 12 feet in elevation, is depicted between the wetlands and the skating rink. In the landfill area, a ravine is shown north of Oak Street and east of the access road. An aerial photograph from May 1972 depicts the access road, and shows the clearing on the landfill area, and a clearing in the wetlands area west of the skating rink.

The ravine is not discernable from the 1951 or 1972 aerial photographs. In addition, no obvious fill areas are evident in the aerial photographs.

3.2 RELEASE HISTORY

On October 22, 1996, the MADEP inspected the disposal site and found that an area of approximately one acre and up to 30 to 40 feet deep had been filled with solid waste. Assorted accumulations of solid waste were found scattered in other areas on the disposal site. The MADEP observed some full paint cans and an old kerosene space heater, but did not otherwise observe hazardous waste. During the inspection, the disposal site owner presented to the MADEP a letter dated April 7, 1988 from the City of Taunton which expressed gratitude to the owners for allowing the City to use the disposal site as a landfill. The actual dates that disposal activities commenced and ceased, and the actual volumes, natures and sources of the waste streams to the landfill, have not been conclusively determined. The landfill is currently inactive.

According to information provided by the City of Taunton Building Department, materials known to have been disposed of at the landfill include construction and demolition debris (asphalt, concrete and brick) from a past reconstruction of Winthrop Street (State Route 44, Taunton). However, anecdotal information (citizen complaints) provided by the MADEP suggests that materials may have been disposed of at the landfill during the late 1980s by entities other than the City and may have included drums containing solvents or solvent-based materials.

Ernest Enos of the Taunton Health Department, and Captain Gallagan of the Fire Prevention Office of the City of Taunton Fire Department reported that they were not aware of any concerns relative to the disposal site or vicinity. However, Mr. Enos stated that he is aware of complaints filed in the past about dumping on the disposal site.

3.3 OIL AND HAZARDOUS MATERIALS USE AND STORAGE

With the exception of No. 2 fuel oil for building heating, contained in aboveground storage tanks, and the materials observed during the MADEP's inspection as described in Section 3.2, there is no record of oil and/or hazardous material use at the disposal site. Investigations completed to date have no revealed any oil or hazardous waste storage containers. However, dissolved volatile organic compounds have been detected in groundwater.

3.4 WASTE MANAGEMENT HISTORY

The skating rink and each dwelling in the area are served by individual septic systems. In addition, records provided by the City of Taunton Sewer Department showed that there are no connections from the sewer system to the properties on which the disposal site is situated.

As stated in Section 3.2, solid wastes from off-site sources were formerly landfilled on the disposal site. No waste materials are currently being landfilled on the disposal site.

3.5 ENVIRONMENTAL PERMITS AND COMPLIANCE HISTORY

No environmental permits have been issued for the disposal site. The MADEP through their inspection of the disposal site found the disposal site to be in non-compliance with provisions of wetlands regulations (310 CMR 10.00), promulgated under MGL c.131 §40, and solid waste regulations (310 CMR 16.00 and 19.000), promulgated under MGL c.111, §150A. No other violations, fines and other legal actions concerning landfill operations have been issued by federal, state or local agencies.

3.6 POTENTIALLY RESPONSIBLE PARTIES

On September 23, 1997, the MADEP entered into an Administrative Consent Order (ACO-SE-97-R001-46) with Leonel and Christina Rose, who own the disposal site, and the City of Taunton, which the ACO states endorsed and was engaged in the dumping/disposal of solid waste at the disposal site. Based on the foregoing, the Roses and the City of Taunton are Potentially Responsible Parties as defined in the MCP.

SECTION 4.0
SITE HYDROGEOLOGICAL CONDITIONS

4.1 SUBSURFACE INVESTIGATIONS

Subsurface investigations were planned and performed in consideration of meetings with representatives of the City and of the MADEP, and to assist the City in meeting conditions set forth in the ACO, including criteria spelled out in the solid waste regulations. The subsurface investigations were initially conducted to collect preliminary soil and groundwater data to characterize the nature of solid waste on the disposal site. Subsequent investigations were conducted to meet MCP requirements in accordance with an agreement made between the parties of the ACO in January 1998.

4.11 Scope of Work Implemented

The scope of work implemented for the subsurface investigation included the following items:

- Six test pits were installed at various locations between the "active front" of the filled area and Oak Street to determine the nature and extent of fill material in this area. Soil samples were visually inspected. Soil samples exhibiting discoloration and/or odors were screened in the field using a PID. The soil sample containing the highest PID reading was submitted to the laboratory for analysis for volatile organic compounds (VOCs).

- Five test pits were installed at various locations at the edge of the wetlands to determine the nature and extent of fill material in this area. Soil samples were visually inspected.

- Initially, four monitoring wells were installed to assess groundwater conditions and to allow the determination of the groundwater flow direction. Three monitoring wells were placed in apparent downgradient locations at the disposal site and one was placed upgradient. The monitoring wells were then developed.

- An additional six monitoring wells were subsequently installed at various locations, including one shallow and one deep well between the "active front" of the filled area and Oak Street, two shallow wells near the residence at 80 Woodbine Street and the skating rink, and two deep wells between the landfill area and the wetlands, to determine groundwater conditions at the water table and at the bedrock surface in these areas. A rock core was obtained at the deep well installed in the landfill area to observe the condition of bedrock. The monitoring wells were then developed.

- Groundwater samples obtained during the initial sampling event were analyzed to meet the criteria set forth in the solid waste regulations. Samples were submitted to the laboratory for analysis for RCRA-8 metals, and copper, iron, manganese, and zinc; alkalinity, chloride, chemical oxygen demand, total cyanide, dissolved oxygen, total dissolved solids, nitrate nitrogen, and sulfate; and VOCs by EPA Method 8260.

- During the subsequent sampling event, soil and groundwater samples were obtained for analysis for VOCs by EPA Method 8260, and EPH with PAHs by the MADEP Method.

- The analytical results were compared to MADEP soil and groundwater standards.

4.12 Test Pits and Soil Sampling

Resource Controls conducted a test pit program of the deeper fill area on December 18, 1997. The test pit program included performance of six test pits to depths of up to 11 feet. The test pits were performed by City of Taunton personnel under Resource Controls' direction. The locations of the test pits are shown on Fig. 3, and test pit logs are attached as Appendix A.

Test Pits 1, 2 and 3 were installed within 15 to 20 feet of the fence located near the property line at Oak Street. Near the fence, light brown sand was generally encountered from grade to a depth of approximately four to five feet. At depths of four to six feet, construction debris consisting of asphalt, concrete, and charred wood was encountered. The excavator bucket was damaged by a large concrete slab found at a depth of six feet in Test Pit 3. No odors were detected in the test pits installed near the fence.

Test Pit 4 was installed approximately 50 feet north of Test Pit 3 and 70 feet north of the fence. No odors were detected; however, construction debris, consisting of a signpost, bricks, concrete and asphalt was encountered at depths ranging from two to 11 feet.

Test Pit 5 was installed 50 feet north and 10 feet east of Test Pit 4, near the active front of the fill. Debris encountered at depths of one to four feet consisted of asphalt, brick, and concrete. A layer of black sand was encountered at a depth of four to five feet; however, no odors were detected. The sample was placed in an 8-oz. jar for headspace testing using a Photovac Model 101 portable photoionization detector (PID) fitted with a 10.6 eV lamp in accordance with established the Jar Headspace Method. The PID was calibrated and operated to yield total organic vapors in parts per million (ppm) v/v as benzene. The sample showed a PID reading of 4.2 ppm. At depths of five to eight feet, metal debris was predominant.

Test Pit 6 was installed 50 feet west of Test Pit 5. Concrete debris was encountered at a depth of 1 to 2 feet. Odors were detected in soil samples obtained from three to six feet. Headspace analysis of the samples showed 9.4 ppm at three to four feet, 27.8 ppm at four to five feet, 315 ppm at five to six feet, and 80.4 ppm at six to seven feet. The sample from three to five feet consisted of grey sand with a strong odor, and the sample from five to six feet consisted of fine grained soil and exhibited a strong odor. No odors were detected below six feet. Samples from six to eight feet below grade consisted of dark brown sand. The sample obtained from five to six feet below grade was submitted to the laboratory for analysis for VOCs.

On March 3, 1998, Resource Controls supervised the performance of test pits by City of Taunton personnel in the shallow fill area adjacent to the wetlands at the disposal site. The test pit program was conducted to obtain soil samples for visual and olfactory observation to confirm the nature of the fill material in this area.

A total of five test pits, to depths ranging from 2 to 4.5 feet, were performed, near the locations of MW-2, MW-3, and MW-4, as shown on Fig. 3. Surficial soils at the test pits generally consisted of brown sand, with materials such as concrete, asphalt, wood, and boulders. Excavation continued until a peat layer, indicating naturally placed soil, was encountered. Observations are documented on the attached test pit logs.

No odors or stains were observed in the soil exposed during excavation of the shallow test pits. The fill material observed in the test pits performed adjacent to the wetlands is consistent with road rubble, and there was no evidence of oil or hazardous materials in the shallow fill material. The shallow test pits were completed in the area near the wetlands (near the locations of MW-2, MW-3, and MW-4, as shown on Fig. 3) under the direction of Resource Controls.

4.13 Drilling

Resource Controls conducted an initial environmental drilling program on December 18, 1997, and a subsequent drilling program from March 31 to April 2, 1998. The drilling program in December 1997 included the installation of four overburden monitoring wells to obtain environmental data from the upper portion of the aquifer, at the water table surface. The drilling program completed in April 1998 included the installation of an additional three overburden wells to ascertain water table aquifer conditions at other locations on the disposal site, and three wells installed on bedrock to ascertain aquifer conditions at the bedrock surface. A rock core was obtained at one location to ascertain the condition of bedrock.

Monitoring Well Installation

Resource Controls constructed the monitoring wells in accordance with standard industry practice. Monitoring wells were drilled and installed by Cosmo Drilling Inc., a licensed well driller, under Resource Controls' direction.

The following is a summary of the types and locations of the four monitoring wells initially installed:

Monitoring Well	Well Type	Location
MW-1	shallow overburden	upgradient of fill area
MW-2	shallow overburden	downgradient of the fill area (NW)
MW-3	shallow overburden	downgradient of the fill area (N)
MW-4	shallow overburden	downgradient of the fill area (NE)

Each of the above monitoring wells was installed using hollow-stem auger drilling methods. Soil samples were obtained at five-foot intervals using split-spoon sampling techniques. Each well was constructed of two-inch inside diameter, Schedule 40, 0.020-inch slot PVC well screen and threaded riser pipe. Well screens were positioned to

span the apparent water table observed during drilling, and to extend five feet below the water table. Clean silica sand was used to backfill the annular space between each well and the boring sidewall to an elevation approximately two feet above the top of the well screen. Each well was sealed with bentonite above the filter pack and set at the surface with a locking steel standpipe secured in concrete. Complete well installation details are recorded in drilling logs included in Appendix B.

The following is a summary of the types and locations of the six monitoring wells subsequently installed:

Monitoring Well	Well Type	Location
MW-5	shallow overburden	cross-gradient of the fill area
MW-6	shallow overburden	downgradient of the fill area, near the dwelling at 80 Woodbine Street
MW-7	shallow overburden	downgradient of the fill area, near the skating rink at 4 Woodbine Street
MW-1D	deep overburden	upgradient of the fill area, near MW-1
MW-2D	deep overburden	downgradient of the fill area, near MW-2
MW-4D	deep overburden	downgradient of the fill area, near MW-4

Each of the monitoring wells was installed using hollow-stem auger drilling methods, with the exception of MW-1D (hollow stem augering to 25 feet, then drive-and-wash to 51.5 feet), and MW-4D (hollow stem augering to 15 feet, then drive-and-wash to 32 feet). Soil samples were obtained at five-foot intervals using split-spoon sampling techniques. Each well was constructed of two-inch inside diameter, Schedule 40, 0.020-inch slot PVC well screen and threaded riser pipe. Well screens were positioned in the shallow wells to span the apparent water table observed during drilling, and to extend five feet below the water table. The deep overburden wells were screened from the bedrock surface to a height of five feet above bedrock. Clean silica sand was used to backfill the annular space between each well and the boring sidewall to an elevation approximately two feet above the top of the well screen. Each well was sealed with bentonite above the filter pack and set at the surface with a locking steel standpipe secured in concrete, with the exception of MW-6 and MW-7, which were finished at grade with roadboxes due to their location. Complete well installation details are recorded in drilling logs included in Appendix B.

Subsurface Soil Sampling

During the installation of the monitoring wells, drillers conducted Standard Penetration Tests with a two-inch O.D., 24-inch-long split-barrel sampler, with which soil samples were retrieved, at five-foot depth intervals. Each sample was classified in the field and placed in an 8-oz. jar for headspace testing, as discussed in Section 5.1.

Well Development and Survey

The monitoring wells were developed subsequent to installation and prior to the collection of groundwater samples in order to enhance the hydraulic connection between the well screen and the natural formation or fill, and to ensure that the groundwater entering the well is representative of subsurface conditions. The wells were developed by manually surging and bailing the wells using a ball-valve bailer.

The locations of the monitoring wells and the elevations of the tops of monitoring well casings were surveyed relative to an arbitrary datum.

4.14 Groundwater Sampling

Groundwater sampling was conducted on December 22, 1997 and on April 8, 1998. During each sampling event, prior to collecting groundwater samples for field and laboratory analysis, the wells were purged a minimum of three well volumes. The pH, temperature and conductivity of the groundwater was monitored using field monitoring equipment. Development continued until the purged groundwater quality parameters stabilized.

4.2 SITE TOPOGRAPHY

Relative to the National Geodetic Vertical Datum (NGVD), the topographic elevation is approximately 44 feet at the east end and center of the disposal site, with a sharp rise to 76 feet at the west end of the disposal site. A deep ravine of over 15 feet in depth traverses the west end of the disposal site. The surrounding topography has a less pronounced relief. Regional topography is generally higher to the west and lower to the east.

According to the Flood Insurance Rate Map dated June 18, 1987, Community Panel 250066-0008C, the disposal site is within Zone X, outside the limit of the 500-year flood.

4.3 SITE GEOLOGIC AND STRATIGRAPHIC CONDITIONS

Disposal site geological and stratigraphic information was obtained from field observations and standard geological reference maps. Drilling logs provided detailed information about surficial stratigraphy.

4.31 Surficial Geology

Soils encountered during drilling outside the landfill area consisted of sands, gravels, cobbles, and silts consistent with the geology of glaciofluvial deposits. As discussed in Section 4.12, anthropogenic material was found in the soil in the landfill area at various depths. At the wetlands area, surficial soils generally consisted of brown sand, with materials such as concrete, asphalt, wood, and boulders to a depth of two to four feet, at which a two to four foot layer of peat was encountered. Sands, gravels, cobbles, and silts were encountered from the peat layer to bedrock.

Drilling logs, which include stratigraphic descriptions and PID readings, are included in Appendix B.

4.32 Bedrock Geology

According to information obtained from the *Bedrock Geologic Map of Massachusetts*, the disposal site is located in an area mapped as Upper and Middle Pennsylvanian Rhode Island Formation. The Rhode Island Formation is comprised of sandstone, graywacke, shale, and conglomerate with minor beds of meta-anthracite with fossil plants. The bedrock core obtained from the location of MW-1D corresponded to the literature description of bedrock in the area of the disposal site.

4.4 GROUNDWATER FLOW DIRECTION

Following development, the monitoring wells were gauged using an interface probe capable of measuring depths to water and to non-aqueous phase liquids, if present, to within 0.01 feet. The surveyed top-of-casing elevation of the monitoring well was used as a reference point. The monitoring wells were also gauged prior to collecting groundwater samples.

On December 22, 1997, depths to groundwater ranged from approximately six feet below grade at MW-4 in the northeastern portion of the disposal site, to 30 feet below grade at MW-1 at the southwest corner of the disposal site. On April 8, 1998, depths to groundwater ranged from approximately 0.5 feet below grade at MW-4D, to 24 feet below grade at MW-1, or approximately six feet greater in elevation than in December 1997. No non-aqueous phase liquids were found on the disposal site. The depths to groundwater with the reference top-of-casing elevations were used to calculate groundwater elevations (see Tables 1 and 2), which in turn were used to generate groundwater elevation contours, which are depicted on the site plan (Fig. 5). The contours show that groundwater flow on the disposal site is toward the northeast, at a generally uniform gradient of one foot per 200 feet (0.005 feet per foot).

SECTION 5.0
NATURE AND EXTENT OF CONTAMINATION

5.1 FIELD SCREENING

The results of Jar Headspace Method tests performed of the soil samples obtained during drilling in December 1997 and March - April 1998 yielded PID readings of 0 to 95.0 ppm, as shown on the drilling logs in Appendix B.

5.2 LABORATORY ANALYSIS CONDUCTED

5.21 Analysis of Soil Samples

The solid waste regulations do not require laboratory analysis of soil samples obtained during drilling. Since response actions were conducted under the MCP after the January 1998 meeting between the parties of the ACO, samples collected during drilling on March 31, April 1, and April 2, 1998 were analyzed for VOCs by EPA Method 8260, and EPH with PAHs by the MADEP Method. Laboratory certificates of analysis for soil samples are attached as Appendix C.

5.22 Analysis of Groundwater Samples

As required by the solid waste regulations, samples collected on December 22, 1997 were submitted to the laboratory for analysis for RCRA-8 metals, and copper, iron, manganese, and zinc; alkalinity, chloride, chemical oxygen demand, total cyanide, dissolved oxygen, total dissolved solids, nitrate nitrogen, and sulfate; and for VOCs by EPA Method 8260.

Samples collected on April 8, 1998 were obtained for analysis for VOCs by EPA Method 8260, and EPH with PAHs by the MADEP Method.

Laboratory certificates of analysis for groundwater samples obtained during both events are attached as Appendix D.

5.3 ANALYTICAL RESULTS

The analytical results listed below refer to the maximum concentrations of compounds detected in soil and groundwater samples obtained during subsurface investigations. These values will be used as a component of the Numerical Ranking System analysis which will determine the appropriate Tier Classification of the disposal site.

5.31 Soil

The results of analysis of soil samples obtained during the subsurface investigations are summarized on Table 3. As shown in the table, the maximum concentrations of VOCs detected in soil include 1,2,4-trimethylbenzene (281 µg/kg); 1,3,5-trimethylbenzene (99 µg/kg); naphthalene (40 µg/kg); t-butylbenzene (38 µg/kg); n-propylbenzene (34 µg/kg); n-butylbenzene (31 µg/kg); ethylbenzene (25 µg/kg); xylenes (22 µg/kg); 2-chlorotoluene (20 µg/kg); methylene chloride (13 µg/kg); isopropylbenzene (11 µg/kg); and chlorobenzene (11 µg/kg). No EPH fractions or target PAHs were detected in soil.

5.32 Groundwater

The results of analysis of groundwater samples obtained during the subsurface investigations are summarized on Table 4. As shown in the table, the maximum concentrations of VOCs detected in groundwater include trichloroethene (1,230 µg/L); acetone (385 µg/L); cis-1,2-dichloroethene (375 µg/L); chlorobenzene (300 µg/L); 1,1,1-trichloroethane (200 µg/L); 1,2,4-trichlorobenzene (69 µg/L); 1,1-dichloroethane (64 µg/L); 1,2-dichlorobenzene (51 µg/L); 1,2,3-trichlorobenzene (43 µg/L); vinyl chloride (36 µg/L); xylenes (15 µg/L); 1,1-dichloroethene (12 µg/L); 1,4-dichlorobenzene (11 µg/L);benzene (9 µg/L); chloromethane (8 µg/L); toluene (7 µg/L); tetrachloroethene (6 µg/L); trans-1,2,-dichloroethene (6 µg/L); chloromethane (4 µg/L); 1,3-dichlorobenzene (1 µg/L); and 1,1,2-trichloroethane (1 µg/L).

The maximum concentrations of PAHs detected in groundwater include phenanthrene (1.13 µg/L); fluoranthene (0.66 µg/L); pyrene (0.58 µg/L); benzo[b]fluoranthene (0.28 µg/L); 2-methylnaphthalene (0.27 µg/L); benzo[a]anthracene (0.26 µg/L); chrysene (0.26 µg/L); benzo[a]pyrene (0.24 µg/L); acenaphthene (0.23 µg/L); and anthracene (0.21 µg/L). No EPH fractions were detected.

The maximum concentrations of metals of potential concern detected in groundwater include zinc (0.16 mg/L) and lead (0.1 mg/L).

No non-aqueous phase liquid was found at the disposal site.

5.4 ESTIMATE OF HORIZONTAL AND VERTICAL EXTENT OF CONTAMINATION

Based on the foregoing results and the results of analysis summarized on Tables 3 and 4, groundwater contamination has been found to extend from the water table to bedrock with concentrations of contaminants generally consistent with depth. Laterally, groundwater contamination was found to extend to at least the southwest and most upgradient corner and of the properties on which the disposal site is located. The extent of contamination in the upgradient

direction has not been fully delineated as of this writing. Downgradient of the landfill area, significant groundwater contamination was found at the edge of the wetlands area, but has not been found adjacent to the dwelling at 80 Woodbine Street or the skating rink at 4 Woodbine Street. Therefore, the horizontal extent of contamination in the downgradient end of the disposal site is at locations shown on the site plan to be between MW-6 and MW-2, and between MW-7 and MW-2, 3 and 4. No soil contamination was found in areas beyond the known extent of groundwater contamination.

SECTION 6.0
POTENTIAL CONTAMINANT MIGRATION PATHWAYS AND EXPOSURE POTENTIAL

6.1 MIGRATION PATHWAYS

Potential migration pathways in all environmental media have been identified and evaluated, and the relative health and environmental risk associated with each pathway is summarized in Table 5. Agricultural activities, commercial fishing, and hunting do not occur at the disposal site. No pathways related to surficial soil or food chains have been identified. As summarized in Table 5, the relative risks associated with air, surface water, groundwater, and soil conditions are considered to be low.

6.2 HUMAN EXPOSURE

Based on the possible disposal of hazardous materials at the disposal site, Resource Controls has identified only one type of potential human exposures that could occur under current disposal site conditions: Excavation of solid waste from the landfill area. However, soil analytical data collected to date do not indicate conditions that exceed applicable soil standards. No buildings or utilities will likely be installed in the landfill area.

In the foreseeable future, there is a potential for air exposure, if buildings designed for human occupancy were to be installed near monitoring wells MW-2, MW-3, and MW-4, where "GW-2" groundwater standards are exceeded.

6.3 ENVIRONMENTAL RECEPTORS

As stated in Section 2.7, an area of wetlands is located in the south central portion of the property. However, no natural resource areas (Zone II areas, Interim Wellhead Protection Areas, Zone A areas, Potentially Productive Aquifers, Areas of Critical Environmental Concern, Sole Source Aquifers, protected open space, fish habitats, or habitats of Species of Special Concern or Threatened or Endangered Species) are located on or within 500 feet of the disposal site. The disposal site investigation has obtained no physical evidence of a past or continuing release of oil and/or hazardous materials at or from the disposal site to surface waters and/or wetlands which significantly affects environmental receptors. No evidence of biologically significant harm was found with current exposure of wildlife, fish, shellfish or other aquatic biota to oil and/or hazardous material at or from the disposal site. However, the full nature and extent of contamination at the disposal site has not been delineated. Based on the possible disposal of hazardous materials, there is a potential for biologically significant harm to environmental receptors.

SECTION 7.0
EVALUATION FOR IMMEDIATE RESPONSE ACTIONS

This Phase I investigation incorporates an evaluation the disposal site for Imminent Hazards, conditions of Substantial Release Migrations, or other time-critical conditions that would constitute criteria for conducting one or more IRAs. The MCP requires that an evaluation for IRAs consider "actual or likely exposures to human and environmental receptors under current disposal site conditions, considering the current use(s) of the disposal site and the surrounding environment, and considering an appropriately short period of time." No changes in disposal site uses are anticipated in the short term.

An "Imminent Hazard" is defined in the MCP as "a hazard which would pose a significant risk of harm to health, safety, public welfare, or the environment if it were present for even a short period of time." With respect to subsurface of soil-related exposures at sites that might pose an Imminent Hazard, the concentration of oil in accessible surficial soil to a depth of six inches are considered in the development of exposure point concentrations. For the evaluation of drinking water exposures, the concentrations of oil or hazardous materials in groundwater or surface water which serves as the source of drinking water are considered. As shown on Tables 3 and 4, exposure point concentrations in soil and groundwater meet applicable standards for current uses of the disposal site.

No release to the environment which would result in the presence of oil and/or hazardous material vapors within buildings, structures, or underground utility conduits at a concentration equal to or greater than ten percent of the Lower Explosive Limit or of reactive or explosive hazardous material, as described in 310 CMR 40.0347, was reported or observed during the Phase I Investigation. Based on the foregoing, disposal site conditions do not represent an "Imminent Hazard."

In addition, the disposal site does not exhibit conditions that require a "Two-Hour" or a "72-Hour" notification; no evidence of Substantial Release Migration has been found at the disposal site; and no other time-critical conditions that would constitute criteria for conducting one or more IRAs have been identified. Therefore, in accordance with 310 CMR 40.0412, no IRAs are required at the disposal site.

SECTION 8.0
CONCLUSIONS

The Phase I investigation documented herein was conducted to meet the requirements of the ACO in effect between the MADEP and the potentially responsible parties associated with the disposal site located at 2 Woodbine Street in Taunton, Massachusetts. Investigations were initially conducted to meet the requirements of the solid waste regulations, as stipulated in the ACO, and the focus of the investigation was subsequently directed to meet MCP requirements, based on a meeting held between the parties of the ACO in January 1998.

Based on the findings of the Phase I investigation, Resource Controls offers the following conclusions:

- The Phase I investigation provided sufficient information to meet the requirements of the Numerical Ranking System and Tier Classification process outlined in the MCP.
- Based on an evaluation for Immediate Response Actions, no Imminent Hazards were identified at the disposal site and no other Immediate Response Action criteria have been identified.
- The extent of contamination has not been fully delineated, and site conditions do not meet a condition of "No Significant Risk" as defined in the MCP.
- Based on the foregoing, a Response Action Outcome (RAO) has not yet been achieved.
- Comprehensive Response Actions are necessary at the disposal site to attain a condition of "No Significant Risk."

SECTION 9.0
LIMITATIONS AND REPORT AUTHORIZATION

This report addresses the environmental characteristics of the subject property with regard to the release of or possible presence of oil and/or hazardous materials. It is not intended to guarantee that the subject property is or is not free from conditions, materials or substances which could adversely impact the environment or pose a threat to public health and safety. Rather, it is intended to be used as a summary of available information on existing conditions, the conclusions of which are based upon a reasonable and knowledgeable review of evidence found in accordance with normally accepted industry standards, State or Federal protocols, and within the scope and budget established with the client. Should further research on the subject property be warranted, any additional data obtained must be reviewed by Resource Controls and the conclusions presented herein may be modified accordingly.

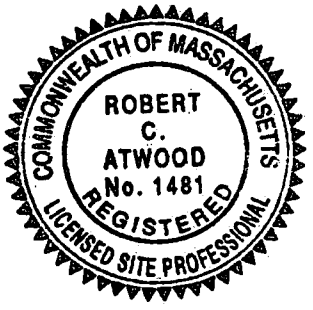
This report in total has been prepared on behalf of and for the exclusive use of Taunton Development Corporation, solely for use in an environmental evaluation of the subject property. This report or any part thereof, may not be altered, used, relied upon or reproduced by any party other than as specified by the Taunton Development Corporation, without first obtaining written permission from Resource Controls. All terms, conditions and limitations as defined herein and in Appendix F, shall apply.

Conclusions stated herein are based on the available information summarized herein and refer only to the specific subject property investigated. No warranty is implied or given and the report is subject to the terms and conditions of the contract.

This report has been prepared and reviewed by the undersigned staff in accordance with Resource Controls' standard Quality Control Procedures.

Robert C. Atwood

Robert C. Atwood, P.E., LSP
President and CEO



Patrick D. Corcoran

Patrick D. Corcoran
Project Environmental Engineer

JOB NO.: A4640 JOB NAME: Taunton – Woodbine DATE: October 16, 1998

TABLES

TABLE 1
SURVEY DATA

LOCATION	GUN NUMBER	ROD ELEVATION	GUN ELEVATION	WELL RIM ELEVATION
Surveyof 12/22/97				
MW-2	1	7.04	107.04	100.00
MW-3	1	9.85	107.04	97.19
MW-4	1	10.66	107.04	96.38
Turn 1	1	3.77	107.04	103.27
Turn 1	2	19.53	122.80	103.27
Turn 2	2	9.93	122.80	112.87
Turn 2	3	7.98	120.85	112.87
MW-1	3	0.66	120.85	120.19
Survey of 04/08/98				
MW-1	1	2.10	122.29	120.19
MW-1D	1	4.72	122.29	117.57
MW-1	2	0.29	120.48	120.19
MW-5	2	8.81	120.48	111.67
MW-4	3	3.07	99.45	96.38
MW-4D	3	4.83	99.45	94.62
MW-2	4	0.06	100.06	100.00
MW-2D	4	3.46	100.06	96.60
MW-6	4	1.97	100.06	98.09
Turn 1	4	6.03	100.06	94.03
Turn 1	5	4.75	98.78	94.03
MW-7	5	5.55	98.78	93.23

NOTE:
1. All figures in feet.
2. Elevations are relative to an aribitrary datum.

TABLE 2
GROUNDWATER ELEVATION SUMMARY

LOCATION	WELL RIM ELEVATION	DEPTH TO GROUNDWATER	EQUIV. G.W. ELEVATION
Gauging of 12/22/97			
MW-1	120.19	29.69	90.50
MW-2	100.00	10.40	89.60
MW-3	97.19	7.72	89.47
MW-4	96.38	6.88	89.50
Shallow Well Gauging of 04/08/98			
MW-1	120.19	23.71	96.48
MW-2	100.00	4.91	95.09
MW-3	97.19	2.57	94.62
MW-4	96.38	1.69	94.69
MW-5	111.67	15.37	96.30
MW-6	98.09	3.73	94.36
MW-7	93.23	0.76	92.47
Deep Well Gauging of 04/08/98			
MW-1D	117.57	20.75	96.82
MW-2D	96.60	2.10	94.50
MW-4D	94.62	0.48	94.14
Approximate Bedrock Elevations		**(to Bedrock)**	**(Bedrock Elev.)**
MW-1D	117.57	50.00	67.57
MW-2D	96.60	27.00	69.60
MW-4D	94.62	32.00	62.62

NOTE:
1. All figures in feet.
2. Elevations are relative to an aribitrary datum.
3. No non-aqueous phase liquid was detected.

TABLE 3
SOIL ANALYTICAL SUMMARY

LOCATION	TP-6	MW-1D	MW-2D	MW-4D	MAXIMUM	S-1	S-2	S-3
DEPTH	5 - 6 FT.	20 - 22 FT.	15 - 17 FT.	15 - 17 FT.		STANDARD	STANDARD	STANDARD
DATE	12/18/97	04/01/98	04/02/98	04/02/98				
Volatile Organic Compounds (µg/kg)								
n-Butylbenzene	31	-	-	-	31	-	-	-
t-Butylbenzene	38	-	-	-	38	-	-	-
Chlorobenzene	< 10	< 10	11	< 9	11	40,000	40,000	40,000
2-Chlorotoluene	20	-	-	-	20	-	-	-
Ethylbenzene	25	-	-	-	25	500,000	500,000	500,000
Isopropylbenzene	11	-	-	-	11	-	-	-
Methylene Chloride	13	< 10	< 7	< 9	13	100,000	200,000	700,000
Naphthalene	40	-	-	-	40	100,000	1,000,000	1,000,000
n-Propylbenzene	34	-	-	-	34	-	-	-
1,2,4-Trimethylbenzene	281	-	-	-	281	-	-	-
1,3,5-Trimethylbenzene	99	-	-	-	99	-	-	-
Xylenes	22	-	-	-	22	300	400	400
Other volatile organic compounds	ND	ND	ND	ND	ND	Detection limits below standards		
Extractable Petroleum Hydrocarbons (mg/kg)								
C9-C18 Aliphatics	-	< 29	< 29	< 29	< 29	1,000	2,500	5,000
C19-C36 Aliphatics	-	< 29	< 29	< 29	< 29	2,500	5,000	5,000
C11-C22 Aromatics	-	< 29	< 29	< 29	< 29	800	2,000	5,000
Polynuceiar Aromatic Hydrocarbons (µg/kg)								
Acenaphthene	-	< 392	< 392	< 383	< 392	1,000,000	2,500,000	4,000,000
Acenaphthylene	-	< 392	< 392	< 383	< 392	100,000	1,000,000	1,000,000
Anthracene	-	< 392	< 392	< 383	< 392	1,000,000	2,500,000	5,000,000
Benzo[a]anthracene	-	< 392	< 392	< 383	< 392	700	1,000	4,000
Benzo[a]pyrene	-	< 392	< 392	< 383	< 392	700	700	700
Benzo[b]fluoranthene	-	< 392	< 392	< 383	< 392	700	1,000	4,000
Benzo[g,h,i]perylene	-	< 392	< 392	< 383	< 392	1,000,000	2,500,000	2,500,000
Benzo[k]fluoranthene	-	< 392	< 392	< 383	< 392	7,000	10,000	40,000
Chrysene	-	< 392	< 392	< 383	< 392	7,000	10,000	40,000
Dibenzo[a,h]anthracene	-	< 392	< 392	< 383	< 392	700	700	800
Fluoranthene	-	< 392	< 392	< 383	< 392	1,000,000	1,000,000	1,000,000
Fluorene	-	< 392	< 392	< 383	< 392	1,000,000	2,000,000	4,000,000
Indeno(1,2,3-cd)anthracene	-	< 392	< 392	< 383	< 392	700	1,000	4,000
2-Methylnaphthalene	-	< 392	< 392	< 383	< 392	500,000	1,000,000	1,000,000
Naphthalene	-	< 392	< 392	< 383	< 392	100,000	1,000,000	1,000,000
Phenanthrene	-	< 392	< 392	< 383	< 392	100,000	100,000	100,000
Pyrene	-	< 392	< 392	< 383	< 392	700,000	2,000,000	5,000,000

NOTES:

1. Samples obtained on dates shown.
2. µg/kg = micrograms per kilogram (parts per billion)
3. mg/kg = milligrams per kilogram (parts per million)
4. S-1, S-2, and S-3 = Massachusetts Contingency Plan standards for soil categorized as S-1, S-2, and S-3 respectively.
5. ND = not detected.
6. - (Dash) indicates no sample or standard.

2 WOODBINE STREET
TAUNTON, MASSACHUSETTS

TABLE 4
GROUNDWATER ANALYTICAL SUMMARY

	MW-1 12/22/97	MW-1 04/08/98	MW-1D 04/08/98	MW-2 12/22/97	MW-2D 04/08/98	MW-3 12/22/97	MW-3 04/08/98	MW-4 12/22/97	MW-4D 04/08/98	MW-5 04/08/98	MW-6 04/08/98	MW-7 04/08/98	MAXIMUM	GW-2 STANDARD	GW-3 STANDARD
Volatile Organic Compounds (µg/L)															
Acetone	< 100	-	-	< 100	-	< 100	-	385	-	-	-	-	385	50,000	50,000
Benzene	< 5	< 1	< 1	9	< 1	< 5	< 1	< 5	< 1	< 1	< 1	< 1	9	2,000	7,000
Chlorobenzene	< 5	< 1	< 1	< 5	2	64	126	250	300	< 1	< 1	< 1	300	1,000	500
Chloroform	< 5	< 1	2	< 5	< 1	< 5	1	< 5	2	5	8	< 1	8	400	10,000
Chloromethane	< 5	< 1	< 1	< 5	< 1	< 5	< 1	< 5	4	< 1	< 1	< 1	4	-	-
1,2-Dichlorobenzene	< 5	< 1	< 1	16	2	15	51	13	15	< 1	< 1	< 1	51	10,000	8,000
1,3-Dichlorobenzene	< 5	< 1	< 1	< 5	< 1	< 5	1	< 5	< 1	< 1	< 1	< 1	1	10,000	8,000
1,4-Dichlorobenzene	< 5	< 1	< 1	< 5	< 1	< 5	11	< 5	2	< 1	< 1	< 1	11	30,000	8,000
1,1-Dichloroethane	< 5	< 1	< 1	11	10	19	19	64	27	< 1	< 1	< 1	64	9,000	50,000
1,1-Dichloroethene	< 5	< 1	< 1	< 5	< 1	< 5	2	< 5	12	< 1	< 1	< 1	12	1	50,000
cis-1,2-Dichloroethene	10	5	< 1	200	125	79	325	350	375	< 1	< 1	< 1	375	30,000	50,000
trans-1,2-Dichloroethene	< 5	< 1	< 1	< 5	2	< 5	4	6	3	< 1	< 1	< 1	6	20,000	50,000
Tetrachloroethene	< 5	< 1	< 1	< 5	4	< 5	6	< 5	4	< 1	< 1	2	6	3,000	5,000
Toluene	< 5	-	-	< 5	-	< 5	-	7	-	-	-	-	7	6,000	50,000
1,2,3-Trichlorobenzene	< 5	-	-	8	-	16	-	43	-	-	-	-	43	-	-
1,2,4-Trichlorobenzene	< 5	-	-	9	-	27	-	69	-	-	-	-	69	-	-
1,1,1-Trichloroethane	11	11	< 1	39	175	48	11	175	275	1	< 1	< 1	275	4,000	50,000
1,1,2-Trichloroethane	< 5	< 1	< 1	< 5	< 1	< 5	< 1	< 5	1	< 1	< 1	< 1	1	20,000	50,000
Trichloroethene	230	160	< 1	950	1,230	255	1,050	725	775	13	< 1	< 1	1,230	300	20,000
Vinyl chloride	< 10	< 1	< 1	< 10	< 1	< 10	< 1	36	< 1	< 1	< 1	< 1	36	2	40,000
Xylenes (total)	< 5	-	-	< 5	-	< 5	-	15	-	-	-	-	15	6,000	50,000
Extractable Petroleum Hydrocarbons (mg/L)															
C_9-C_{18} Aliphatics	-	< 0.5	< 0.5	-	< 0.5	-	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1	20
C_{19}-C_{36} Aliphatics	-	< 0.5	< 0.5	-	< 0.5	-	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	50
C_{11}-C_{22} Aromatics	-	< 0.5	< 0.5	-	< 0.5	-	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	50	30
Polynucelar Aromatic Hydrocarbons (µg/L)															
Acenaphthene	-	0.23	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	0.23	-	50,000
Acenaphthylene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	3,000
Anthracene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	0.21	< 0.2	0.21	-	3,000
Benzo[a]anthracene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	0.26	< 0.2	< 0.2	0.26	-	3,000
Benzo[a]pyrene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	0.24	< 0.2	< 0.2	0.24	-	3,000
Benzo[b]fluoranthene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	0.28	< 0.2	< 0.2	0.28	-	3,000
Benzo[g,h,i]perylene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	3,000
Benzo[k]fluoranthene	-	< 0.1	< 0.1	-	< 0.1	-	< 0.1	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-	3,000
Chrysene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	0.26	< 0.2	< 0.2	0.26	-	3,000
Dibenzo[a,h]anthracene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	3,000
Fluorene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	3,000
Fluoranthene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	0.66	0.53	< 0.2	0.66	-	200
Indeno(1,2,3-cd)anthracene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-	3,000
2-Methylnaphthalene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	< 0.2	0.59	< 0.2	0.27	10,000	3,000
Naphthalene	-	< 0.2	< 0.2	-	< 0.2	-	4.0	-	< 0.2	< 0.2	0.59	< 0.2	4	6,000	6,000
Phenanthrene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	0.72	1.13	< 0.2	1.13	-	50
Pyrene	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	0.58	0.46	< 0.2	0.58	-	3,000
Metals (mg/L)															
Arsenic	< 0.1	-	-	< 0.1	-	< 0.1	-	< 0.1	-	-	-	-	< 0.1	-	30
Barium	< 0.2	-	-	< 0.2	-	< 0.2	-	< 0.2	-	-	-	-	< 0.2	2	7
Cadmium	< 0.01	-	-	< 0.01	-	< 0.01	-	< 0.01	-	-	-	-	< 0.01	-	0.01
Chromium	< 0.05	-	-	< 0.05	-	< 0.05	-	< 0.05	-	-	-	-	< 0.05	-	2
Copper	< 0.02	-	-	< 0.02	-	< 0.02	-	< 0.02	-	-	-	-	< 0.02	-	-
Iron	0.2	-	-	0.2	-	0.5	-	3.6	-	-	-	-	3.6	-	-
Lead	< 0.1	-	-	< 0.1	-	< 0.1	-	< 0.1	-	-	-	-	0	-	0.3
Manganese	0.24	-	-	0.24	-	1.82	-	1.34	-	-	-	-	1.82	-	-
Mercury	< 0.0005	-	-	< 0.0005	-	< 0.0005	-	< 0.0005	-	-	-	-	< 0.0005	-	0.001
Selenium	< 0.1	-	-	< 0.1	-	< 0.1	-	< 0.1	-	-	-	-	< 0.1	-	0.08
Silver	< 0.01	-	-	< 0.01	-	< 0.01	-	< 0.01	-	-	-	-	< 0.01	-	0.007
Zinc	< 0.05	-	-	0.16	-	< 0.05	-	< 0.05	-	-	-	-	0.16	-	0.9

NOTES:

1. Samples obtained on dates shown.
2. µg/L = micrograms per liter (parts per billion)
3. mg/L = milligrams per liter (parts per million)
4. GW-2 and GW-3 = Massachusetts Contingency Plan standards for groundwater classified as GW-2 and GW-3 respectively.
5. - (Dash) indicates no sample or standard.

2 WOODBINE STREET
TAUNTON, MASSACHUSETTS

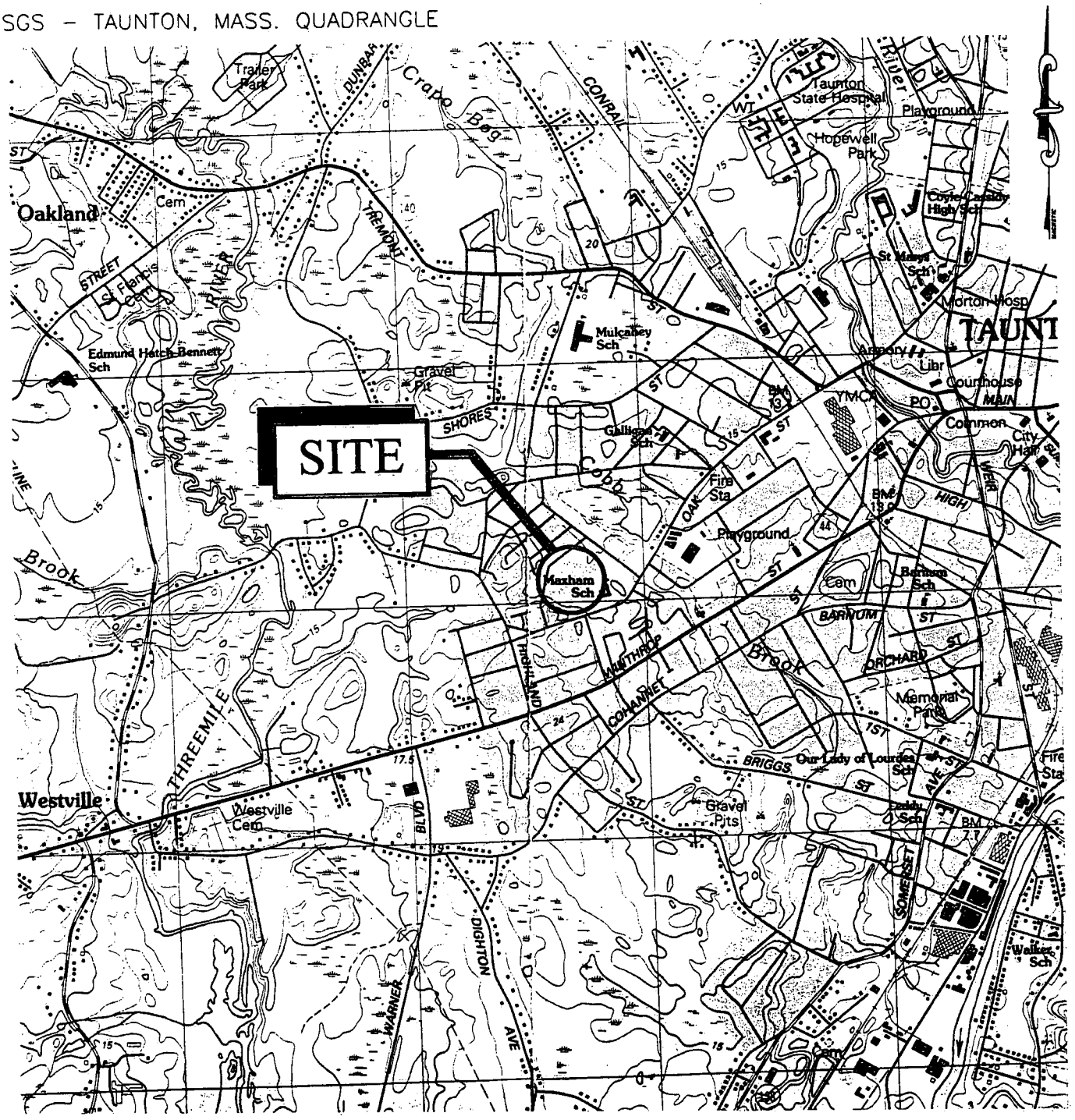
TABLE 5

SUMMARY OF POTENTIAL EXPOSURE PATHWAYS
AND EVALUATION OF HEALTH AND ENVIRONMENTAL RISK

PATHWAY	DESCRIPTION	RELATIVE RISK
Air	Monitoring wells MW-6 and MW-7 were installed within 30 feet of the dwelling at 80 Woodbine Street, and the skating rink, respectively. Groundwater samples from these wells met "GW-2" standards. Other wells installed at the Site are not proximate to any occupied structure. No elevation PID readings were obtained from surficial or shallow soils during drilling.	Low
Soil	The shallowest soil contamination identified on Site is at approximately three feet below grade at the landfill area. No significant soil contamination was found outside the landfill area. The only potential exposure would be workers during excavation within the landfill area at the Site.	Low
Groundwater	Volatile organic compounds and polynuclear aromatic hydrocarbons been reported in groundwater at the Site. However, the Site is not located within Zone II of a public water supply, a Potentially Productive Aquifer, or an Interim Well Head Protection Area, and is not known to be located within 500 feet of any private drinking water well.	Low
Surface water	Volatile organic compounds and polynuclear aromatic hydrocarbons been reported in groundwater at the Site, at levels below "GW-3" standards which are protective of surface water. However, wetlands are located on-Site downgradient of the landfill area.	Low

FIGURES

USGS – TAUNTON, MASS. QUADRANGLE



SCALE 1:25,000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

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LOCUS MAP

2 WOODBINE STREET TAUNTON, MASSACHUSETTS

SCALE	PROJECT	FILE	FIGURE	REV.
1:25,000			1	1

MA DEP - Bureau of Waste Site Cleanup

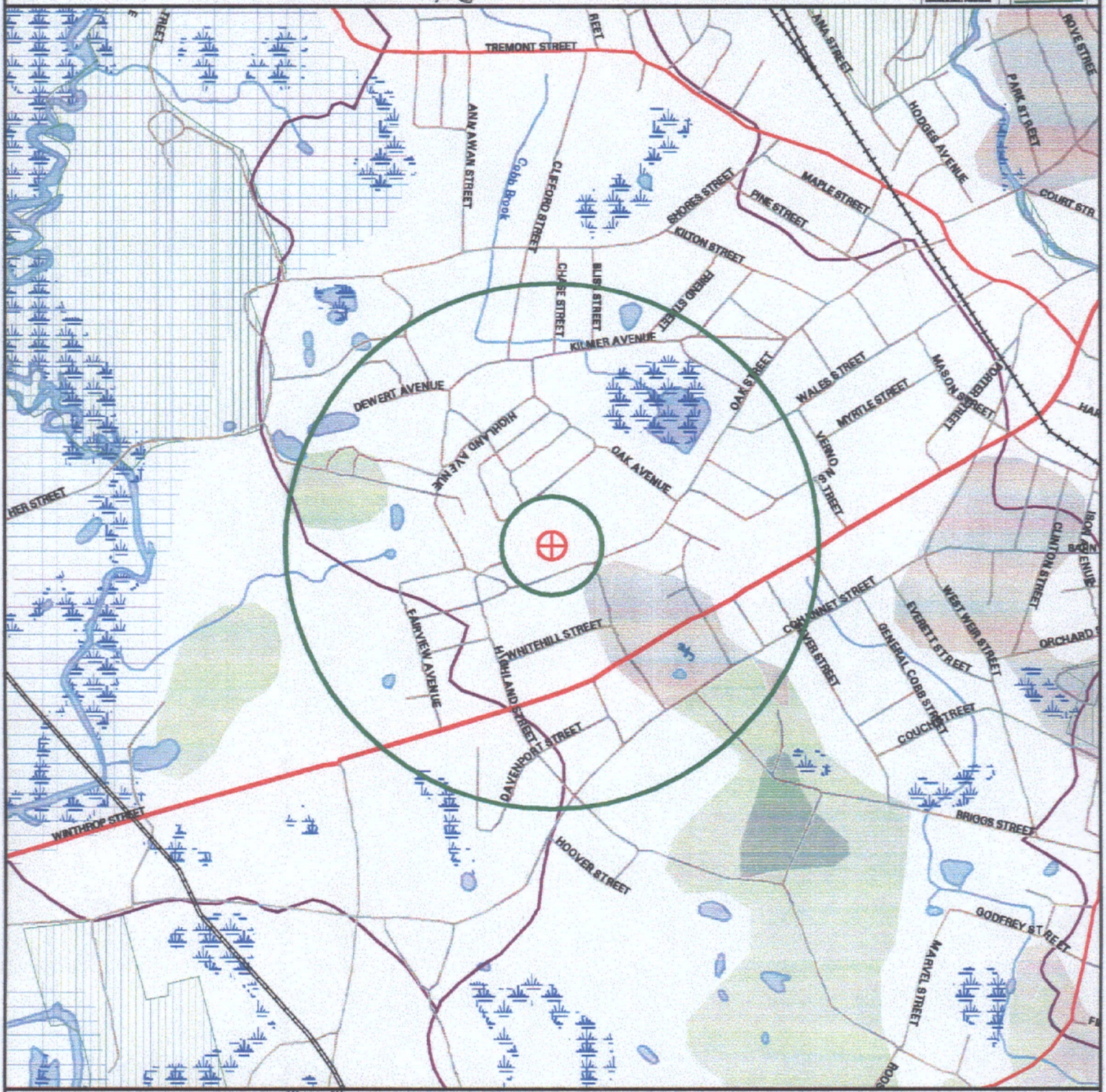
Site Scoring Map: 500 feet & 0.5 Mile Radii

SITE NAME:
2 Woodbine St.
Taunton, MA
41 53 40n 71 06 50ew

The information shown on this map is the best available at the date of printing. Please refer to the data source descriptions document.

MASS GIS — Massachusetts Geographic Information System
Massachusetts Executive Office of Environmental Affairs - 1997

DEP — Department of Environmental Protection



Roads: Interstate,US,State,Street,Trail
Boundaries: Municipal,County,DEP Region
Train; Powerline; Pipeline
Drainage Basins: Major,Sub
Streams: Perennial,Intermittent,Aqueduct
Potentially Productive Aquifers: Medium Yield,High Yield
Non-Potential Drinking Water Source Area: Medium,High Yield

EPA Designated Sole Source Aquifer
Public Water Supplies: Ground,Surface,Non Community
Approved Zone2; IWPA;
Hydrography: Water Features,Public Surface Water Supply
Wetlands: Fresh,Salt,NHESP Wetlands Habitat
Protected Open Space; ACEC
DEP Permitted Solid Waste Facilities; Certified Vernal Pools

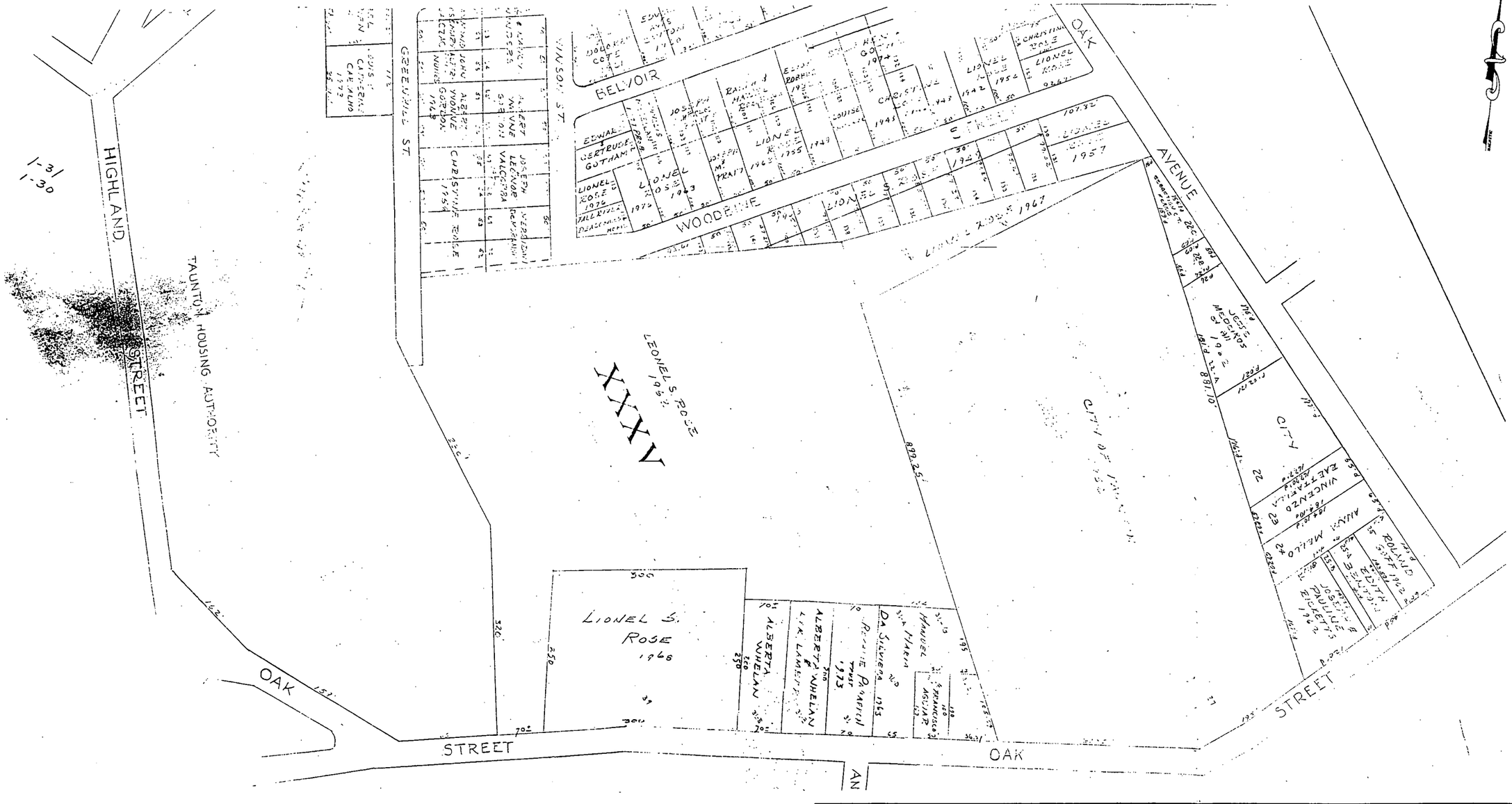
N
W E
S

SCALE 1:15000

0 1/2 MILES
0 1/2 KILOMETERS

October 08, 1997

WARD 7, PLAN 17, BLOCK 35, LOTS 34,39



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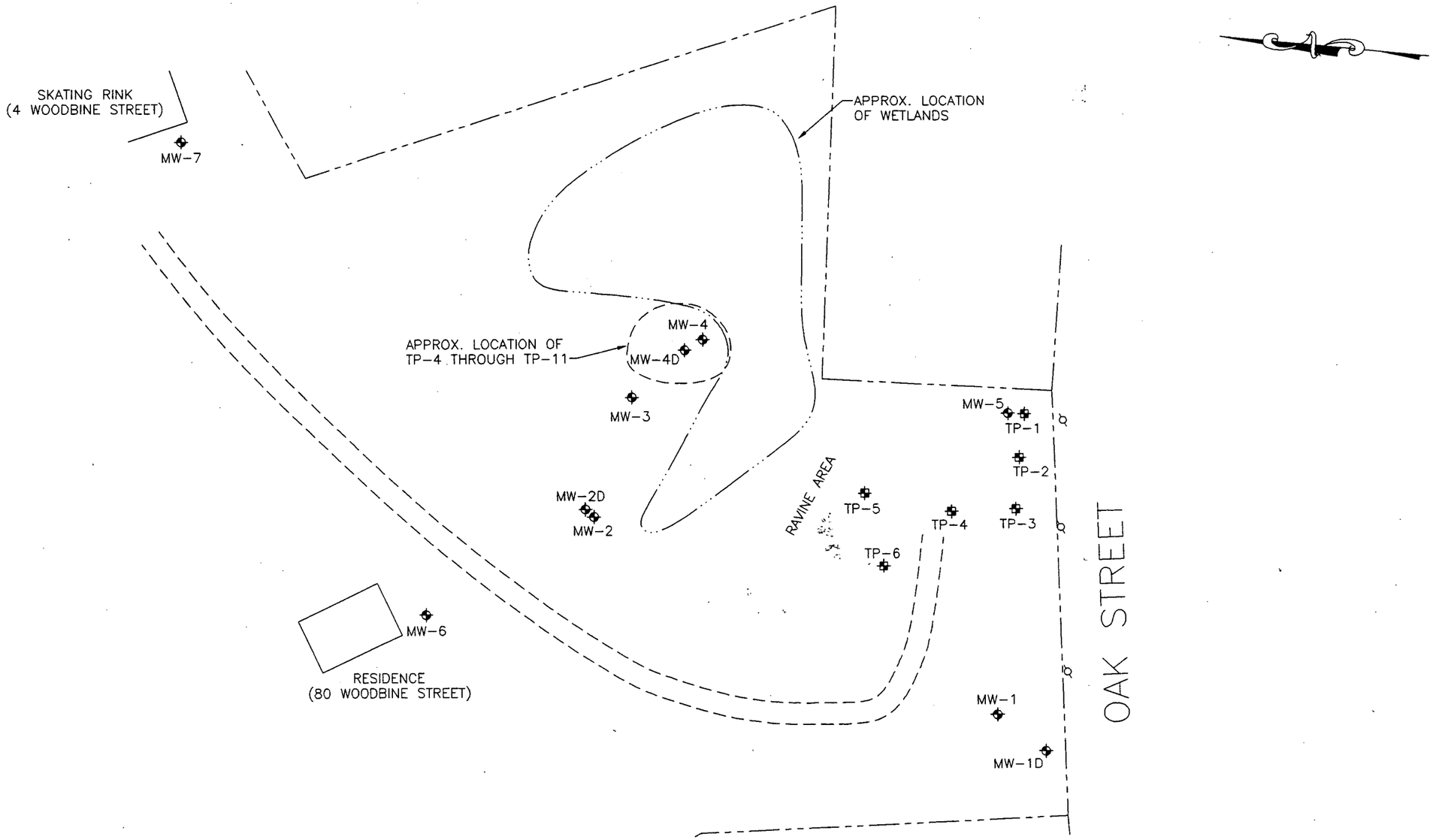
PLAT MAP

2 WOODBINE STREET
TAUNTON, MASSACHUSETTS

SCALE	PROJECT	FILE	FIGURE	REV.
NONE			3	1



LEGEND

- UTILITY POLE
- MONITORING WELL
- TEST PIT

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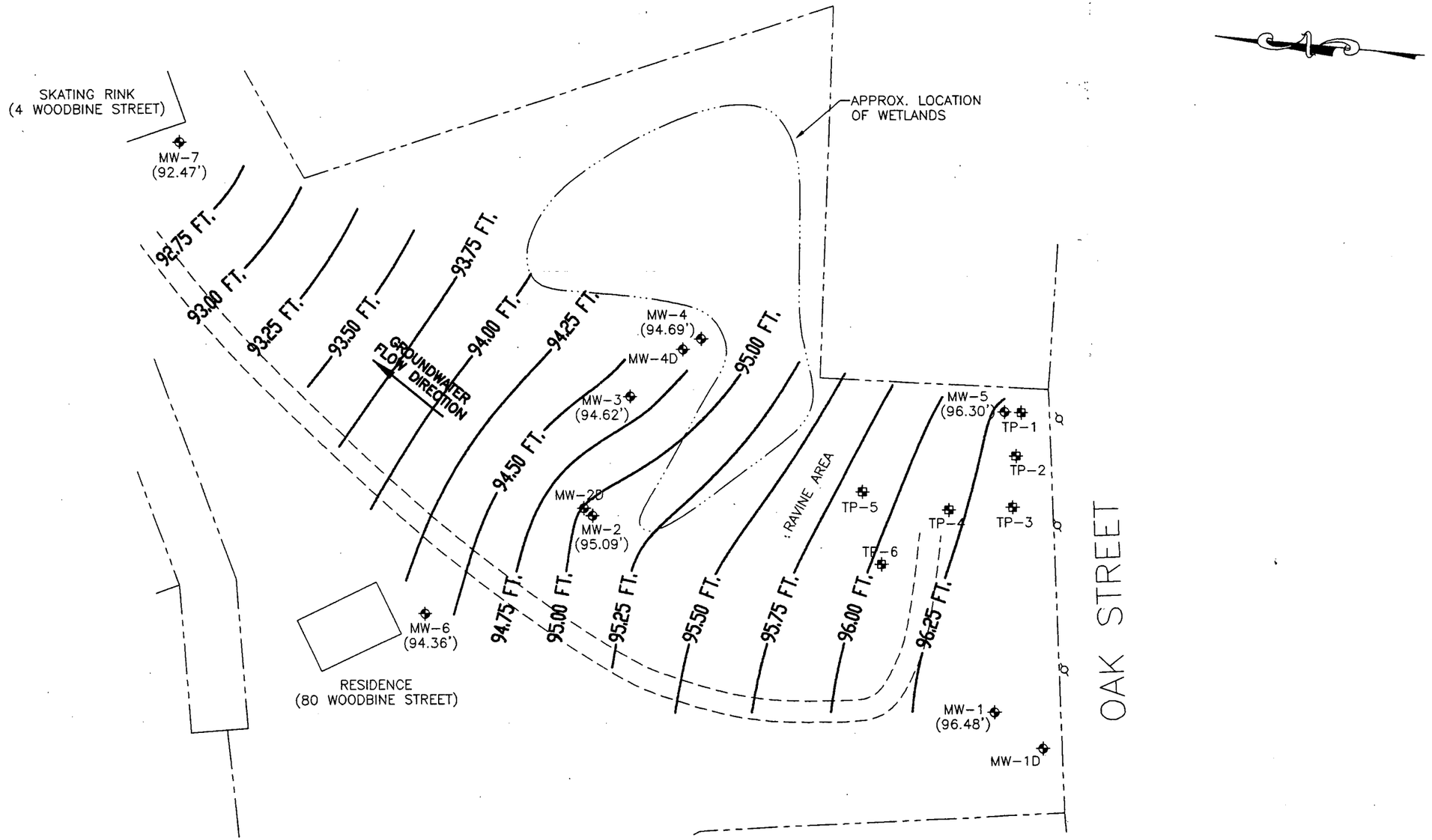
SITE PLAN

2 WOODBINE STREET
TAUNTON, MASSACHUSETTS

SCALE	PROJECT	FILE	FIGURE	REV.
1"=100'	A4640 004	4640MON	4	1



LEGEND

- UTILITY POLE
- MONITORING WELL
- TEST PIT
- —90.00 FT.— GROUNDWATER CONTOUR

CONTOUR INTERVAL 0.25 FEET
WELLS GAUGED 4/8/98

NOTE: DEEP WELLS NOT INCLUDED IN CONTOURING

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GROUNDWATER ELEVATION CONTOURS

2 WOODBINE STREET
TAUNTON, MASSACHUSETTS

SCALE	PROJECT	FILE	FIGURE	REV.
1"=100'	A4640 004	4640MON1	5	1

APPENDIX A

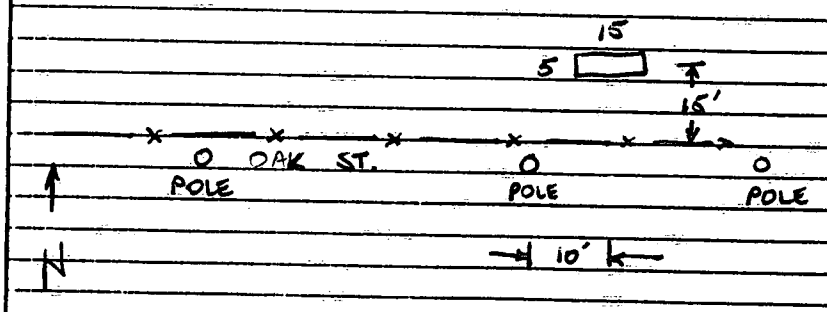
Test Pit Logs

RESOURCE CONTROLS TEST PIT LOG

RESOURCE CONTROL ASSOCIATES, INC.

Project: CITY OF TAUNTON	Location: 2 WOODBINE ST.		TP-1
Test pit dimensions: 15 x 5 x 10	Face of Test Pit logged: EAST	Date excavated: 12-18-97 0850	Project No.: A4640
Depth to water: NOT ENCOUNTERED	Excavated by: MIKE LEVINE		Logged by: PDC
Surface elevation:	Surface conditions: VEGETATED; GRASS/WEEDS, BRUSH		

DEPTH (feet)	Sample No.	Description	Elevation (feet)	PID Readings (ppm)
0'-4'		LIGHT BROWN SAND, NO ODOR		
4-5'		BROWN SAND; COBBLES (3"-6"); PAPER SOME CHARRED WOOD, NO ODOR		
5'-10'		DARK BROWN SAND, NO ODOR		
10'		BOTTOM OF EXPLORATION		



Groundwater

Date	Time	Depth/Ft.

15 (L) x 5 (W) x 10 (D) = 750 Cu. Ft.

8" to 18" Diam: No. ____" Vol. ____ Cu. Ft.

Over 18" Diam: No. ____" Vol. ____ Cu. Ft.

Summary

Depth: 10'

Samples: NONE

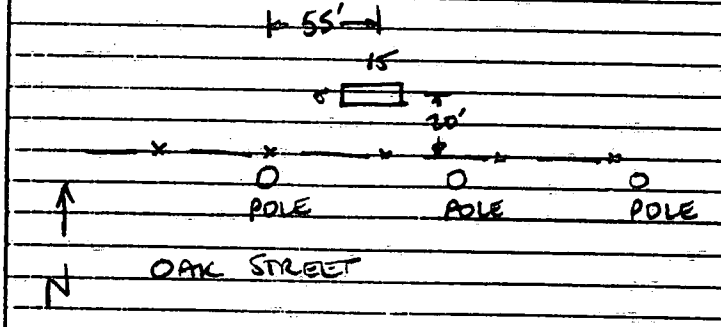
Test Pit No. TP-1

RESOURCE CONTROLS TEST PIT LOG

RESOURCE CONTROL ASSOCIATES, INC.

Project: CITY OF TAUNTON	Location: 2 WOODBINE ST.		TP-2
Test pit dimensions: 15 x 5 x 10	Face of Test Pit logged:	Date excavated: 12-18-97 0900	Project No.: A4640
Depth to water: NOT ENCOUNTERED	Excavated by: MIKE LEVINE		Logged by: PDC
Surface elevation:	Surface conditions: VEGETATED, GRASS / WEEDS; BRUSH		

DEPTH (feet)	Sample No.	Description	Elevation (feet)	PID Readings (ppm)
0'-4'		LIGHT BROWN SAND, GRAVEL, NO ODOR		
4'		LOG (WOOD), 2' LENGTH, 3" DIAMETER		
4-10'		COBBLES, BROWN SAND, ASPHALT, CHARRED WOOD; NO ODOR		
4-10'		LIGHT BROWN SAND + GRAVEL, NO ODOR		
10'		BOTTOM OF EXPLORATION		



Groundwater

Date	Time	Depth/Ft.

15 (L) x 5 (W) x 10 (D) = 750 Cu. Ft.

8" to 18" Diam: No. ____" Vol. ____ Cu. Ft.

Over 18" Diam: No. ____" Vol. ____ Cu. Ft.

Summary

Depth: 10'

Samples: NONE

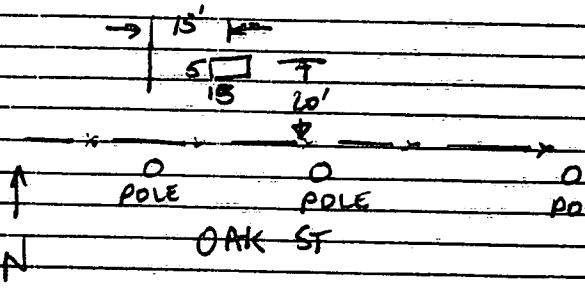
Test Pit No. TP-2

RESOURCE CONTROLS TEST PIT LOG

RESOURCE CONTROL ASSOCIATES, INC.

Project: CITY OF MUNTON	Location: 2 WOODBINE ST		TP-3
Test pit dimensions: 15 x 5 x 6	Face of Test Pit logged:	Date excavated: 12-18-97 0930	Project No.: A4640
Depth to water: NOT ENCOUNTERED	Excavated by: MIKE LEVINE		Logged by: PDC
Surface elevation:	Surface conditions: VEGETATED; GRASS/WEEDS; BRUSH		

DEPTH (feet)	Sample No.	Description	Elevation (feet)	PID Readings (ppm)
0-2'		DARK BROWN SAND, COBBLES (3"-6"), NO ODOR		
2-3'		LIGHT BROWN SAND, 3"-6" COBBLES, NO ODOR		
3-5'		WOOD, RUG (REMNANT), GLASS PIECES, BOULDERS (12"), CONCRETE, ASPHALT, NO ODOR		
6"		BACKHOE BRAKE BUCKET TOOTH ON CONCRETE SLAB END OF EXPLORATION		



Groundwater		
Date	Time	Depth/Ft.

15 (L) x 5 (W) x 6 (D) = 450 Cu. Ft.

8" to 18" Diam: No. ____" Vol. ____ Cu. Ft.

Over 18" Diam: No. ____" Vol. ____ Cu. Ft.

Summary
Depth: 6'
Samples: NONE

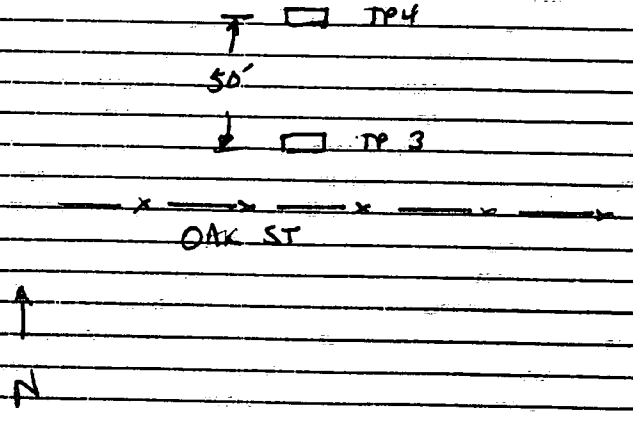
Test Pit No. TP-3

RESOURCE CONTROLS TEST PIT LOG

RESOURCE CONTROL ASSOCIATES, INC.

Project: CITY OF TAUNTON	Location: 2 WOODBINE ST.		TP-4
Test pit dimensions: 15 x 5 x 10	Face of Test Pit logged:	Date excavated: 12-18-97 1000	Project No.: A4640
Depth to water: NOT ENCOUNTERED	Excavated by: MIKE LEVINE		Logged by: PDC
Surface elevation:	Surface conditions: VEGETATED, GRASS/WEEDS		

DEPTH (feet)	Sample No.	Description	Elevation (feet)	PID Readings (ppm)
0-1		LIGHT BROWN SAND, NO ODOR		
1-2		18" BOULDER, CONCRETE, ASPHALT, DARK SAND, NO ODOR		
2-10		CONCRETE, ASPHALT, DARK SAND, NO ODOR 4' METAL SIGNPOST 8' BRICKS, GLASS, STYROFOAM CUP		
10		END OF EXPLORATION		



Groundwater

Date	Time	Depth/Ft.

15 (L) x 5 (W) x 10 (D) = 750 Cu. Ft.

8" to 18" Diam: No. ____" Vol. ____ Cu. Ft.

Over 18" Diam: No. ____" Vol. ____ Cu. Ft.

Summary

Depth: 10'

Samples: NONE

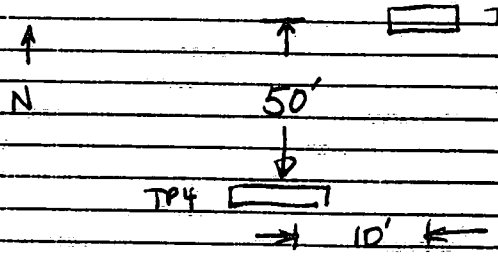
Test Pit No. TP-4

RESOURCE CONTROLS TEST PIT LOG

RESOURCE CONTROL ASSOCIATES, INC.

Project: CITY OF TAUNTON	Location: 2 WOODBINE ST		TP-5
Test pit dimensions: 15 x 5 x 8	Face of Test Pit logged:	Date excavated: 12-18-97	Project No.: A4640	Sheet No.:
Depth to water: NOT ENCOUNTERED	Excavated by: MIKE LEVINE 1020		Logged by: PDC
Surface elevation:	Surface conditions: VEGETATED; GRASS/WEEDS		

DEPTH (feet)	Sample No.	Description	Elevation (feet)	PID Readings (ppm)
0-1		LIGHT BROWN SAND, ORGANIC/WOOD/LEAVES, NO ODOR		
1-4		DARK BROWN SAND, ASPHALT, BRICK, BOTTLE, WOOD, CONCRETE, NO ODOR		
4-5	TP-5-1	BLACK SAND, NO ODOR		4.2
5-6		PAPER, CONCRETE, METAL, CLOTH, PLASTIC, BRICK, NO ODOR		
6-7		METAL, NO ODOR		
8		METAL, NO ODOR		
8		BOTTOM OF EXPLORATION		



Groundwater

Date	Time	Depth/Ft.

15 (L) x 5 (W) x 8 (D) = 600 Cu. Ft.

8" to 18" Diam: No. ____" Vol. ____ Cu. Ft.

Over 18" Diam: No. ____" Vol. ____ Cu. Ft.

Summary

Depth: 8'

Samples:

TP-5-1 : 4-5'

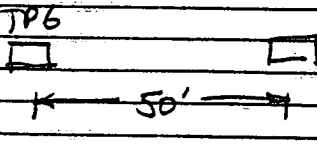
Test Pit No. TP-5

RESOURCE CONTROLS TEST PIT LOG

RESOURCE CONTROL ASSOCIATES, INC.

Project: CITY OF TAUNTON	Location: 2 WOODBINE ST		TP-6
Test pit dimensions: 15 x 5 x 8	Face of Test Pit logged:	Date excavated: 12-18-97	Project No.: A4640 / Sheet No.:
Depth to water: NOT ENCOUNTERED	Excavated by: MIKE LEVINE 1035		Logged by: PDC
Surface elevation:	Surface conditions: VEGETATED; GRASS/WEEDS		

DEPTH (feet)	Sample No.	Description	Elevation (feet)	PID Readings (ppm)
0-1		BROWN LIGHT SAND, 6" COBBLES, NO ODOR		
1-2		PIECE OF CARPET, 2" COBBLES, DARK BROWN SAND, NO ODOR		
2-3		CONCRETE, NO ODOR		
3-4	TP-6-1	GREY SAND, ODOR		9.4
4-5	TP-6-2	GREY SAND, STRONG ODOR		27.8
5-6	TP-6-3	CLAY / SLUDGE, STRONG ODOR		315
6-7	TP-6-4	DARK BROWN SAND, NO ODOR		80.4
7-8		DARK BROWN SAND, NO ODOR		
8		BOTTOM OF EXPLORATION		



Groundwater		
Date	Time	Depth/Ft.

15 (L) x 5 (W) x 8 (D) = 600 Cu. Ft.

8" to 18" Diam: No. ____" Vol. ____ Cu. Ft.
Over 18" Diam: No. ____" Vol. ____ Cu. Ft.

Summary	
Depth:	8
Samples:	
	TP-6-1, TP-6-2
	TP-6-3, TP-6-4
Test Pit No.	TP-6

RESOURCE CONTROLS TEST PIT LOG

RESOURCE CONTROL ASSOCIATES, INC.

Project :		Location: TP-7		
Test pit dimensions: 5 x 10 x 4	Face of Test Pit logged:	Date excavated: 3/3/98 0800	Project No.: A4640	Sheet No.:
Depth to water: 2'		Excavated by: CITY OF TAUNTON		Logged by: PDC
Surface elevation:	Surface conditions:			

DEPTH (feet)	Sample No.	Description	Elevation (feet)	PID Readings (ppm)
		SURFACE - 6" - VEGETATION		
		6" - 1½' BROWN SAND CONCRETE SLABS ASPHALT		
		WATER - 2½ FT (MATCHES SURFACE ELEV OF WETLAND)		
		3½ - 4 FT - PEAT		
		OAK WLA TP8 MW-4 OFF Landfill		

Groundwater		
Date	Time	Depth/Ft.

10 (L) x 5 (W) x 4 (D) = 200 Cu. Ft.

8" to 18" Diam: No. ____" Vol. ____ Cu. Ft.

Over 18" Diam: No. ____" Vol. ____ Cu. Ft.

Summary

Depth:

Samples:

Test Pit No.

RESOURCE CONTROLS TEST PIT LOG

RESOURCE CONTROL ASSOCIATES, INC.

Project :		Location: TP-8		
Test pit dimensions: 5x10x2	Face of Test Pit logged:	Date excavated: 3/3/98 0810	Project No.: A4640	Sheet No.:
Depth to water: 1½'	Excavated by: CITY OF TAUNTON		Logged by: PDC	
Surface elevation:	Surface conditions:			

DEPTH (feet)	Sample No.	Description	Elevation (feet)	PID Readings (ppm)
		SURFACE - ASPHALT		
		TO 2' - CONCRETE ASPHALT BROWN SAND		
		PEAT AT 2'		
		WATER POURING IN		
		wetlands		
		0 ← 0 → 0 TP-7		
		TP-8 20' MW4 10'		
		20'		
		0		
		TP-9		

Groundwater		
Date	Time	Depth/Ft.

10 (L) x 5 (W) x 2 (D) = 100 Cu. Ft.

8" to 18" Diam: No. ____" Vol. ____ Cu. Ft.

Over 18" Diam: No. ____" Vol. ____ Cu. Ft.

Summary

Depth:

Samples:

Test Pit No.

RESOURCE CONTROLS TEST PIT LOG

RESOURCE CONTROL ASSOCIATES, INC.

Project :		Location: TP-9		
Test pit dimensions: 5 x 10 x 2	Face of Test Pit logged:	Date excavated: 3/3/98 0815	Project No.: A4640	Sheet No.:
Depth to water: NOT ENCOUNTERED		Excavated by: CITY OF TAUNTON		Logged by: PDC
Surface elevation:	Surface conditions:			

DEPTH (feet)	Sample No.	Description	Elevation (feet)	PID Readings (ppm)
		SURFACE - ASPHALT, SAND, VEGETATION		
		TO 1' SAND, GRAVEL, COBBLES		
		WOOD		
		PEAT AT 2'		

Groundwater		
Date	Time	Depth/Ft.

10 (L) x 5 (W) x 2 (D) = 100 Cu. Ft.

8" to 18" Diam: No. ____" Vol. ____ Cu. Ft.

Over 18" Diam: No. ____" Vol. ____ Cu. Ft.

Summary
Depth:
Samples:
Test Pit No.

RESOURCE CONTROLS TEST PIT LOG

RESOURCE CONTROL ASSOCIATES, INC.

Project:		Location: TP-10		
Test pit dimensions: 5 x 10 x 4.5	Face of Test Pit logged:	Date excavated: 3/3/98 0820	Project No.: A4640	Sheet No.:
Depth to water: NOT ENCOUNTERED		Excavated by: CITY OF FAIRFAX		Logged by: PDC
Surface elevation:	Surface conditions:			

DEPTH (feet)	Sample No.	Description	Elevation (feet)	PID Readings (ppm)
		SURFACE - VEGETATION		
		6" - 1' - SAND, CLAY FILL		
		1 - 4' CONCRETE WOOD ASPHALT BOULDERS		
		PEAT AT 4 1/2'		
		MIDWAY BETWEEN MW-3 AND MW-4.		

Groundwater		
Date	Time	Depth/Ft.

10 (L) x 5 (W) x 4.5 (D) = 225 Cu. Ft.

8" to 18" Diam: No. ____" Vol. ____ Cu. Ft.

Over 18" Diam: No. ____" Vol. ____ Cu. Ft.

Summary

Depth:

Samples:

Test Pit No.

RESOURCE CONTROLS TEST PIT LOG

RESOURCE CONTROL ASSOCIATES, INC.

Project :		Location: TP-11		
Test pit dimensions: 5 x 10 x 4.5	Face of Test Pit logged:	Date excavated: 3/3/98 0825	Project No.: A4640	Sheet No.:
Depth to water: NOT ENCOUNTERED		Excavated by: CITY OF TAUNTON		Logged by: PDC
Surface elevation:	Surface conditions:			

DEPTH (feet)	Sample No.	Description	Elevation (feet)	PID Readings (ppm)
		SURFACE - VEGETATION		
		6" 6' DARK BROWN SAND		
		1' - BROWN SAND / GRAVEL		
		WOOD		
		CONCRETE		
		BOULDERS		
		4½ FT - PEAT		
		0 MW-3 5' TP-11		
		0 MW-1		

Groundwater		
Date	Time	Depth/Ft.

10 (L) x 5 (W) x 4.5 (D) = 225 Cu. Ft.

8" to 18" Diam: No. ___" Vol. ___ Cu. Ft.

Over 18" Diam: No. 1" Vol. ___ Cu. Ft.

Summary

Depth:

Samples:

Test Pit No.

APPENDIX B

Drilling Logs

DRILLING LOG

RESOURCE CONTROLS

PROJECT:	
PROJECT NO.:	A4640
LOCATION:	2 Woodbine Street Taunton, MA
DRILLING CO.:	COSMO
DRILLED BY:	Frank/Kenny
INSPECTED BY:	Mark House

BORING NO.	MW-1
PAGE 1 OF	1
DATE STARTED:	12/18/97
DATE FINISHED:	12/18/97
SURFACE ELEVATION:	Unknown

GROUNDWATER OBSERVATIONS

DEPTH	STABILIZATION TIME
29'	N/A

	CASING	SAMPLER
TYPE:	HSA	Split Spoon
SIZE I.D.:	3-3/4"	1-1/4"
HAMMER WT.:		140 lbs.
HAMMER FALL:		30 in.

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	PERCENT RECOV.	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
	0'-2'	S-1	10%	3-18-76-19			LOAM (sandy) with cobbles	
5'								
	5'-7'	S-2	15%	2-2-3-3			Reddish-brown silty SAND, trace fine gravel, moist, lo	30.0
10'								
	10'-12'	S-3	5%	10-3-3-2			Brown, fine-med. SAND, with coarse gravel to cobble, loose	18.0
15'								
	15'-17'	S-4	5%	5-9-9-13			SAME AS ABOVE	9.3
20'								
	20'-22'	S-5	60%	10-15-19-12			(20'-21') Brown, fine-med. SAND, dry, loose (21'-22') Brown, fine-coarse SAND & gravel, dry, loose	7.4
25'								
	25'-27	S-6	75%	17-24-16-18			SAME AS ABOVE, moist, wet at tip (27')	14.2
30'								
	30'-32'	S-7	5%	100/2"			Brown, fine-coarse SAND with gravel, some cobble, saturated	2.8
35'								
	35'-37'	S-8	0%	19-20-15-18			No Recovery	
40'							Bottom of excavation at 37'	

GENERAL REMARKS:

Screen - 35'-25'
Sand - 37'-21'
Bentonite Seal - 21'-18'
Sand - 18'-1'
Riser - 25'-2.5' above ground

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DRILLING LOG

RESOURCE CONTROLS

PROJECT:		BORING NO.	MW-1D
PROJECT NO.:	A4640	PAGE 1 OF	2
LOCATION:	2 Woodbine Street Taunton, MA	DATE STARTED:	3/31/98
		DATE FINISHED:	4/1/98
DRILLING CO.:	COSMO	SURFACE ELEVATION:	Unknown
DRILLED BY:	Frank		
INSPECTED BY:	Patrick Corcoran		

GROUNDWATER OBSERVATIONS

DEPTH	STABILIZATION TIME
21'	N/A

	CASING	SAMPLER
TYPE:	HSA	Split Spoon
SIZE I.D.:	3-3/4"	1-1/4"
HAMMER WT.:		140 lbs.
HAMMER FALL:		30 in.

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	PERCENT RECOV.	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
	0'-2'	SS-1	75%	3-10-10-8			(0'-1') Brown, fine-med. SAND and gravel, cobbles (1'-2') Light brown fine-med. SAND	1.0
5'								
	5'-5.5'	SS-2	25%	17-100/2"			Brown, fine-med. SAND and gravel, cobbles	1.1
10'							(8') 2" dia. Rocks up auger flights	
	10'-12'	SS-3	60%	5-5-7-7			Brown med.-coarse SAND, some fine sand and gravel	2.0
15'								
	15'-17'	SS-4	50%	9-12-11-9			SAME AS ABOVE, damp at 17'	3.5
20'								
	20'-22'	SS-5	75%	5-7-7-12		▽	(20'-21') SAME AS ABOVE (21'-21.5') Fine-med. SAND and gravel with silt, wet (21.5'-22') Med.-coarse SAND and gravel, wet	9.0
25'								
	25'-27'	SS-6	80%	6-9-13-12			(25'-26') SAME AS ABOVE (26'-27') Fine-med. SAND and silt with coarse sand and gravel	1.8
30'								
	30'-32	SS-7	50%	11-15-14-7			(30'-31') GRAVEL (31'-32') Fine SAND and gravel and silt	3.4
35'								
	35'-37'	SS-8	90%	39-17-18-20			(35'-36') Fine-med. SAND (36'-37') Coarse SAND and gravel	0.8
40'								

GENERAL REMARKS:

Auger to 25 feet
Then change to casing

Bentonite - 51.5'-50'
Screen - 50'-45'
Sand - 50'-44'
Bentonite - 44'-39'
Native backfill to grade

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DRILLING LOG

RESOURCE CONTROLS

PROJECT:		BORING NO.	MW-1D
PROJECT NO.:	A4640	PAGE 2 OF	2
LOCATION:	2 Woodbine Street Taunton, MA	DATE STARTED:	3/31/98
		DATE FINISHED:	4/1/98
DRILLING CO.:	COSMO	SURFACE ELEVATION:	Unknown
DRILLED BY:	Frank		
INSPECTED BY:	Patrick Corcoran		

GROUNDWATER OBSERVATIONS

DEPTH	STABILIZATION TIME
21'	N/A

	CASING	SAMPLER
TYPE:	HSA	Split Spoon
SIZE I.D.:	3-3/4"	1-1/4"
HAMMER WT.:		140 lbs.
HAMMER FALL:		30 in.

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	PERCENT RECOV.	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
	40'-42'	SS-9	0%	6/100-3"			Fine SAND and cobbles	0.3
				0 (300#)				
45'								
	45'-47'	SS-10	25%	100/5"			Dense fine SAND, some silt, gravel	0.3
				14/1" (300#)				
				50/3" (300#)				
50'								
	50'-52'	SS-11	20%	66/6"			SAME AS ABOVE	0.2
				100/1"				
				50/2" (300#)			Bottom of exploration at 52'	
55'								
60'								
65'								
70'								
75'								
80'								

GENERAL REMARKS:

Auger to 25 feet
Then change to casing

Bentonite - 51.5'-50'
Screen - 50'-45'
Sand - 50'-44'
Bentonite - 44'-39'
Native backfill to grade

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DRILLING LOG

RESOURCE CONTROLS

PROJECT:		BORING NO.	MW-2
PROJECT NO.:	A4640	PAGE 1 OF	1
LOCATION:	2 Woodbine Street Taunton, MA	DATE STARTED:	12/18/97
		DATE FINISHED:	12/18/97
DRILLING CO.:	COSMO	SURFACE ELEVATION:	Unknown
DRILLED BY:	Frank/Kenny		
INSPECTED BY:	Mark House		

GROUNDWATER OBSERVATIONS

DEPTH	STABILIZATION TIME
10'	N/A

	CASING	SAMPLER
TYPE:	HSA	Split Spoon
SIZE I.D.:	3-3/4"	1-1/4"
HAMMER WT.:		140 lbs.
HAMMER FALL:		30 in.

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	PERCENT RECOV.	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
	0'-2'	S-1	75%	14-15-19-16			Brown sandy LOAM, moist	2.8
5'								
	5'-7'	S-2	75%	1-6-9-12			(5'-6.5') Brown/black organic SILT, moist, soft (6.5'-7') gray fine-med. SAND, loose, moist	3.8
10'								
	10'-12'	S-3	75%	9-14-14-16			Brown/gray fine SAND, saturated, loose	7.2
15'								
	15'-17'	S-4	50%	7-19-20-22			Brown, fine-coarse SAND, with silt, trace fine gravel, med. dense	12.2
20'							Bottom of excavation at 17'	
25'							Screen - 15'-5' Sand - 15'-3' Bentonite Seal - 3'-1' Riser - 5'-2.5' above ground	
30'								
35'								
40'								

GENERAL REMARKS:

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DRILLING LOG

RESOURCE CONTROLS

PROJECT:		BORING NO.	MW-2D
PROJECT NO.:	A4640	PAGE 1 OF	1
LOCATION:	2 Woodbine Street Taunton, MA	DATE STARTED:	4/2/98
		DATE FINISHED:	4/2/98
DRILLING CO.:	COSMO	SURFACE ELEVATION:	Unknown
DRILLED BY:	Frank		
INSPECTED BY:	Patrick Corcoran		

GROUNDWATER OBSERVATIONS

DEPTH	STABILIZATION TIME
	N/A

	CASING	SAMPLER
TYPE:	HSA	Split Spoon
SIZE I.D.:	3-3/4"	1-1/4"
HAMMER WT.:		140 lbs.
HAMMER FALL:		30 in.

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	PERCENT RECOV.	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
	0'-2'	SS-1	40%	2-7-20-9			(0'-0.5') Dark brown SAND, organic	3.4
							(0.5'-1') Cobbles, brick, asphalt, fine med. sand and gravel	
5'								
	5'-7'	SS-2	50%	1-2-3-8			(5'-5.5') Brown fine-med. SAND with silt, brick, grave	4.3
							(5.5'-7.5') PEAT	
							(7.5'-8') Gray fine-med. SAND	
10'								
	10'-12'	SS-3	60%	7-15-15-19			Light brown fine-med. SAND, some silt	10.6
15'								
	15'-17'	SS-4	60%	7-16-14-12			Med. SAND and gravel, silt	8.3
20'								
	20'-22'	SS-5	40%	3-4-7-8			Med.-coarse SAND and gravel, some cobbles and silt	3.2
25'								
	25'-27'			4/100-2"			(25.7') Refusal	3.4
				50/0" (300#)				
30'							Bottom of exploration at 27'	
35'								
40'								

GENERAL REMARKS:

Screen - 25'-20'
Sand - 19'
Bentonite - 16'
Native backfill to grade

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DRILLING LOG

RESOURCE CONTROLS

PROJECT:		BORING NO.	MW-3
PROJECT NO.:	A4640	PAGE 1 OF	1
LOCATION:	2 Woodbine Street Taunton, MA	DATE STARTED:	12/18/97
		DATE FINISHED:	12/18/97
DRILLING CO.:	COSMO	SURFACE ELEVATION:	Unknown
DRILLED BY:	Frank/Kenny		
INSPECTED BY:	Mark House		

GROUNDWATER OBSERVATIONS

DEPTH	STABILIZATION TIME
7'	N/A

	CASING	SAMPLER
TYPE:	HSA	Split Spoon
SIZE I.D.:	3-3/4"	1-1/4"
HAMMER WT.:		140 lbs.
HAMMER FALL:		30 in.

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	PERCENT RECOV.	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
	0'-2'	S-1	70%	12-5-4-6			Brown organic sandy SILT, soft	1.9
5'								
	5'-7'	S-2	55%	9-14-16-16			Gray, fine-coarse SAND, trace silt and fine gravel, sat loose	2.3
10'								
	10'-12'	S-3	60%	13-19-21-22			Light brown, fine-coarse SAND and silt, some coarse and cobble, saturated	10.6
15'							Bottom of excavation at 13'	
20'								
25'							Screen - 13'-3' Sand - 13'-2' Bentonite Seal - 2'-1' Riser - 3'-2.5' above ground	
30'								
35'								
40'								

GENERAL REMARKS:

DRILLING LOG

RESOURCE CONTROLS

PROJECT:		BORING NO.	MW-4
PROJECT NO.:	A4640	PAGE 1 OF	1
LOCATION:	2 Woodbine Street Taunton, MA	DATE STARTED:	12/18/97
		DATE FINISHED:	12/18/97
DRILLING CO.:	COSMO	SURFACE ELEVATION:	Unknown
DRILLED BY:	Frank/Kenny		
INSPECTED BY:	Mark House		

GROUNDWATER OBSERVATIONS

DEPTH	STABILIZATION TIME
7'	N/A

	CASING	SAMPLER
TYPE:	HSA	Split Spoon
SIZE I.D.:	3-3/4"	1-1/4"
HAMMER WT.:		140 lbs.
HAMMER FALL:		30 in.

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	PERCENT RECOV.	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
	0'-2'	S-1	65%	14-6-5-7			Brown silty SAND, moist, loose	0.0
5'								
	5'-7'	S-2	40%	9-7-13-15			Gray, fine-coarse SAND, trace silt, saturated, loose	0.9
10'								
	10'-12'	S-3	50%	10-12-11-8			Gray/brown, fine-coarse SAND, trace silt, loose, satur	95.0
15'							Bottom of excavation at 13'	
20'								
25'							Screen - 13'-3' Sand - 13'-2' Bentonite Seal - 2'-1' Riser - 3'-2.5' above ground	
30'								
35'								
40'								

GENERAL REMARKS:

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DRILLING LOG

RESOURCE CONTROLS

PROJECT:		BORING NO.	MW-4D
PROJECT NO.:	A4640	PAGE 1 OF	1
LOCATION:	2 Woodbine Street Taunton, MA	DATE STARTED:	4/1/98
		DATE FINISHED:	4/2/98
DRILLING CO.:	COSMO	SURFACE ELEVATION:	Unknown
DRILLED BY:	Frank		
INSPECTED BY:	Patrick Corcoran		

GROUNDWATER OBSERVATIONS

DEPTH	STABILIZATION TIME
	N/A

	CASING	SAMPLER
TYPE:	HSA	Split Spoon
SIZE I.D.:	3-3/4"	1-1/4"
HAMMER WT.:		140 lbs.
HAMMER FALL:		30 in.

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	PERCENT RECOV.	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
	0'-2'	SS-1	50%	3-9-7-2			Brown fine SAND and gravel	3.3
5'								
	5'-7'	SS-2	75%	6-9-8-5			Gray fine-med. SAND and silt	9.1
10'								
	10'-12'	SS-3	80%	3-6-16-20			(10'-11') Organic fine-med. SAND (11'-12') Med. SAND and silt	10.8
15'								
	15'-17'	SS-4	0%	7-27-20-57			Lost basket-NO SAMPLE	17.3
	15'-17'	SS-4A	20%	15-19-23-37			Drive & Wash - Dense fine-med. SAND, with gravel, silt and cobbles	
20'								
	20'-22'	SS-5	20%	53-12-23-20			Brown fine-med. SAND and grave, silt, some cobbles	16.8
25'								
	25'-27'	SS-6	40%	24-23-21-77			Light brown/orange dense fine-med. SAND and silt	10.2
30'								
	30'-32'		0%	100/4"			Weathered rock	8.9
				70/1" (300#)				
35'							Bottom of exploration at 32'	
40'								

GENERAL REMARKS:

Screen - 30'-25'
Sand - 24'
Bentonite - 20'
Native backfill to grade

F:\DOC\4640.00\TECHNICA\DLOGS.XLS

DRILLING LOG

RESOURCE CONTROLS

PROJECT:		BORING NO.	MW-5
PROJECT NO.:	A4640	PAGE 1 OF	1
LOCATION:	2 Woodbine Street Taunton, MA	DATE STARTED:	4/3/98
		DATE FINISHED:	4/3/98
DRILLING CO.:	COSMO	SURFACE ELEVATION:	Unknown
DRILLED BY:	Ken, Frank		
INSPECTED BY:	Mark House		

GROUNDWATER OBSERVATIONS

DEPTH	STABILIZATION TIME
19.8'	N/A

	CASING	SAMPLER
TYPE:	HSA	Split Spoon
SIZE I.D.:	3-3/4"	1-1/4"
HAMMER WT.:		140 lbs.
HAMMER FALL:		30 in.

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	PERCENT RECOV.	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
	0'-2'	S-1	65%	1-5-13-22			Brown fine-coarse SAND, trace silt and coarse gravel, moist, med. Dense	0.2
5'								
	5'-7'	S-2	25%	3-2-6-10			Brown fine-coarse SAND, trace silt, moist, loose	0.0
10'								
	10'-12'	S-3	25%	7-7-3-3			Brown med.-coarse SAND, trace fines, moist, loose	0.2
15'								
	15'-17'	S-4	5%	50/5" 50/3" (300#)			(15'-15.7') Gray/brown med.-coarse SAND, with cobbl (fratured), moist, very dense	1.8
20'								
	20'-22'	S-5	65%	30-18-24-20			Gray/brown fine-coarse SAND, trace silt, gravel and cobble (fractured), wet, dense	0.6
25'								
	25'-27'	S-6	50%	16-13-19-21			SAME AS ABOVE, wet	0.2
30'							Bottom of exploration at 27'	
35'								
40'								

GENERAL REMARKS:

Screen - 25'-15'
Sand - 27'-13'
Bentonite - 13'-11'
Native backfill to grade

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DRILLING LOG

RESOURCE CONTROLS

PROJECT:		BORING NO.	MW-6
PROJECT NO.:	A4640	PAGE 1 OF	1
LOCATION:	2 Woodbine Street Taunton, MA	DATE STARTED:	4/3/98
		DATE FINISHED:	4/3/98
DRILLING CO.:	COSMO	SURFACE ELEVATION:	Unknown
DRILLED BY:	Ken, Frank		
INSPECTED BY:	Mark House		

GROUNDWATER OBSERVATIONS

DEPTH	STABILIZATION TIME
2'	N/A

	CASING	SAMPLER
TYPE:	HSA	Split Spoon
SIZE I.D.:	3-3/4"	1-1/4"
HAMMER WT.:		140 lbs.
HAMMER FALL:		30 in.

DEPTH (FT.)	SAMPLING DEPTH (FT.) *FROM - TO*	SAMPLE DATA ID	PERCENT RECOV.	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY *(DESCRIPTION OF MATERIALS)*	FIELD TEST DATA PID - 10.2 eV (ppm)
	0'-2'	S-1	70%	2-8-10-5			Brown fine-coarse SAND, trace fines & organics, loos moist	1.0
	2'-4'	S-2	50%	2-3-5-5			Brown to black fine-med. SAND, with organics (coal), loose, wet	2.8
5'								
	5'-7'	S-3	60%	2-6-11-11			Brown fine-med. SAND, trace fines, loose, wet	0.8
	7'-9'	S-4	60%	6-9-13-12			SAME AS ABOVE	0.8
10'								
	10'-12'	S-5	40%	3-5-5-5			Gray/brown med.-coarse SAND, trace fines & fine gra loose, wet	2.8
15'							Bottom of exploration at 12'	
20'								
25'								
30'								
35'								
40'								

GENERAL REMARKS:

Screen - 10'-2'
Sand - 12'-1'
Bentonite - 1'-0.5'
Native backfill to grade

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DRILLING LOG

RESOURCE CONTROLS

PROJECT:		BORING NO.	MW-7
PROJECT NO.:	A4640	PAGE 1 OF	1
LOCATION:	2 Woodbine Street Taunton, MA	DATE STARTED:	4/2/98
		DATE FINISHED:	4/2/98
DRILLING CO.:	COSMO	SURFACE ELEVATION:	Unknown
DRILLED BY:	Frank		
INSPECTED BY:	Patrick Corcoran		

GROUNDWATER OBSERVATIONS

DEPTH	STABILIZATION TIME
2'	N/A

	CASING	SAMPLER
TYPE:	HSA	Split Spoon
SIZE I.D.:	3-3/4"	1-1/4"
HAMMER WT.:		140 lbs.
HAMMER FALL:		30 in.

DEPTH (FT.)	SAMPLING DEPTH (FT.) FROM - TO	SAMPLE DATA ID	PERCENT RECOV.	BLOWS PER 6 INCHES	WELL DATA	STRATA CHANGE (FT.)	LITHOLOGY (DESCRIPTION OF MATERIALS)	FIELD TEST DATA PID - 10.2 eV (ppm)
	0'-2'	SS-1	5%	4-14-10-7			Brown fine-med. SAND and gravel, trace cobbles, wet < 5' (off flights)	1.3
5'								
	5'-7'	SS-2	40%	5-9-18-24			Wet fine SAND and silt, trace gray gravel	1.8
10'								
	10'-12'	SS-3	60%	8-11-13-16			Fine-med. SAND and silt, gray gravel	1.7
15'							Bottom of exploration at 12'	
20'								
25'								
30'								
35'								
40'								

GENERAL REMARKS:

Screen - 12'-2'
Sand - 12'-1'
Bentonite - 1'-0.5'
Native backfill to grade

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APPENDIX C

Laboratory Certificates of Soil Analysis

ESS Laboratory

Division of Thielsch Engineering, Inc.

RECD DEC 3 1 1997

December 26, 1997

Mr. Pat Corcoran
Resource Controls
474 Broadway Street
Pawtucket, RI 02860

Dear Mr. Corcoran:

We appreciate this opportunity to provide you with our analytical services. ESS Laboratory is committed to providing the highest quality service. Our dedication to each client includes responsiveness to emergencies, dependable, well-written reports, and client services which include the availability of all analysts to answer your inquiries.

Enclosed is your data report. The corresponding project invoice is being forwarded to your Accounts Payable Department. Samples will be disposed of thirty days after the final report is mailed. If you have any questions or concerns, please feel free to call our Customer Service Department. We value our continued relationship and look forward to hearing from you in the future.

Sincerely,

ESS LABORATORY

Laurel Stoddard
Laboratory Manager

Enclosure

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

PROJECT NARRATIVE

CLIENT: Resource Controls
CLIENT PROJECT ID: Taunton
ESS PROJECT ID: 973925

Sample Receipt
One solid sample was received on December 9, 1997 for the analyses specified on the enclosed Chain of Custody Record.

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. These analyses with these noted observations are in conformance to the Quality Assurance Plan.

No unusual observations noted.

This signed Certificate of Analysis is our approved release of your analytical results. Beginning with this Project Narrative, the entire report has been paginated. The Chain of Custody is the final report page. This report should not be copied except in full without the approval of the laboratory.

End of project narrative.

Laurel Stoddard/Eric Baanante
Laboratory Manager/Operations Manager

12/29/97
Date

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
Method 8260

Client: Resource Controls
Client Project ID: Taunton
Client Sample ID: TP-6
Date Sampled: 12/18/97
Date Analyzed: 12/24/1997

ESS Project ID: 973925
ESS Sample ID: 973925-01
Dilution Factor: 1
Units: ug/Kg dry wt.

Parameter	Result	MRL	Parameter	Result	MRL
Dichlorodifluoromethane	ND	18	Chlorobenzene	ND	9
Chloromethane	ND	18	1,1,1,2-Tetrachloroethane	ND	9
Vinyl Chloride	ND	18	Ethyl Benzene	25	9
Bromomethane	ND	18	Xylenes (Total)	22	9
Chloroethane	ND	18	Styrene	ND	9
Trichlorofluoromethane	ND	9	Bromoform	ND	9
1,1-Dichloroethene	ND	9	Isopropylbenzene	11	9
Methylene Chloride	13	9	1,2,3-Trichloropropane	ND	9
Methyl tert-Butyl Ether	ND	9	Bromobenzene	ND	18
Trans-1,2-Dichloroethene	ND	9	1,1,2,2-Tetrachloroethane	ND	9
1,1-Dichloroethane	ND	9	n-Propylbenzene	34	9
Cis-1,2-Dichloroethene	ND	9	2-Chlorotoluene	20	9
2,2-Dichloropropane	ND	18	4-Chlorotoluene	ND	9
Bromochloromethane	ND	18	1,3,5-Trimethylbenzene	99	9
Chloroform	ND	9	tert-Butylbenzene	38	9
1,1,1-Trichloroethane	ND	9	1,2,4-Trimethylbenzene	281	9
1,1-Dichloropropene	ND	18	sec-Butylbenzene	ND	9
Carbon Tetrachloride	ND	9	1,3-Dichlorobenzene	ND	9
Benzene	ND	9	4-Isopropyltoluene	ND	9
1,2-Dichloroethane	ND	9	1,4-Dichlorobenzene	ND	9
Trichloroethene	ND	9	n-Butylbenzene	31	9
1,2-Dichloropropane	ND	9	1,2-Dichlorobenzene	ND	9
Dibromoethane	ND	18	1,2-Dibromo-3-chloropropane	ND	9
Bromodichloromethane	ND	9	1,2,4-Trichlorobenzene	ND	9
Cis-1,3-Dichloropropene	ND	9	Hexachlorobutadiene	ND	9
Toluene	ND	9	Naphthalene	40	9
Trans-1,3-Dichloropropene	ND	9	1,2,3-Trichlorobenzene	ND	9
1,1,2-Trichloroethane	ND	9	Acetone	ND	180
1,3-Dichloropropane	ND	9	2-Butanone	ND	180
Tetrachloroethene	ND	9	4-Methyl-2-pentanone	ND	90
Dibromochloromethane	ND	9	2-Hexanone	ND	90
1,2-Dibromoethane	ND	9	Carbon Disulfide	ND	9

ND= Not Detected above Method Reporting Limit (MRL)

Approved by: LAS Date: 12/26/97

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

PERCENT SOLIDS SECTION

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

PERCENT SOLIDS

Client: **Resource Controls**

Client Project ID: **Taunton** ESS Project ID: **973925**

Date Sampled: **12/18/97** Date Reported: **12/26/97**

ESS Laboratory Sample ID	Client Sample ID	Result (%)
973925-01	TP-6	84

Approved by:_____ Date:_____

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

QUALITY CONTROL SECTION

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS SOIL SURROGATE RECOVERY

Client: **Resource Controls**

Client Project ID: **Taunton** ESS Project ID: **973925**

Sample ID	DCE#	TOL#	BFB#
VMA122497B1	103	100	100
973925-01	106	109	107

 # Column to be used to flag recovery values with an asterisk when outside the quality control range.

DCE = DICHLOROETHANE-D4 (70-121%)
TOL = TOLUENE-D8 (81-117%)
BFB = BROMOFLUOROBENZENE (74-121%)

Approved by: CAS Date: 12/29/97

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
Method 8260

Client: Resource Controls
Client Project ID: Taunton
Client Sample ID: Method Blank
Date Sampled: N/A
Date Analyzed: 12/24/1997

ESS Project ID: 973925
ESS Sample ID: MA122497B1
Dilution Factor: 1
Units: ug/Kg dry wt.

Parameter	Result	MRL	Parameter	Result	MRL
Dichlorodifluoromethane	ND	10	Chlorobenzene	ND	5
Chloromethane	ND	10	1,1,1,2-Tetrachloroethane	ND	5
Vinyl Chloride	ND	10	Ethyl Benzene	ND	5
Bromomethane	ND	10	Xylenes (Total)	ND	5
Chloroethane	ND	10	Styrene	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	Isopropylbenzene	ND	5
Methylene Chloride	ND	5	1,2,3-Trichloropropane	ND	5
Methyl tert-Butyl Ether	ND	5	Bromobenzene	ND	10
Trans-1,2-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	n-Propylbenzene	ND	5
Cis-1,2-Dichloroethene	ND	5	2-Chlorotoluene	ND	5
2,2-Dichloropropane	ND	10	4-Chlorotoluene	ND	5
Bromochloromethane	ND	10	1,3,5-Trimethylbenzene	ND	5
Chloroform	ND	5	tert-Butylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	1,2,4-Trimethylbenzene	ND	5
1,1-Dichloropropene	ND	10	sec-Butylbenzene	ND	5
Carbon Tetrachloride	ND	5	1,3-Dichlorobenzene	ND	5
Benzene	ND	5	4-Isopropyltoluene	ND	5
1,2-Dichloroethane	ND	5	1,4-Dichlorobenzene	ND	5
Trichloroethene	ND	5	n-Butylbenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
Dibromoethane	ND	10	1,2-Dibromo-3-chloropropane	ND	5
Bromodichloromethane	ND	5	1,2,4-Trichlorobenzene	ND	5
Cis-1,3-Dichloropropene	ND	5	Hexachlorobutadiene	ND	5
Toluene	ND	5	Naphthalene	ND	5
Trans-1,3-Dichloropropene	ND	5	1,2,3-Trichlorobenzene	ND	5
1,1,2-Trichloroethane	ND	5	Acetone	ND	100
1,3-Dichloropropane	ND	5	2-Butanone	ND	100
Tetrachloroethene	ND	5	4-Methyl-2-pentanone	ND	50
Dibromochloromethane	ND	5	2-Hexanone	ND	50
1,2-Dibromoethane	ND	5	Carbon Disulfide	ND	5

N/A = Not Applicable
ND= Not Detected above Method Reporting Limit (MRL)

Approved by: LAS Date: 12/26/97

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS LABORATORY CERTIFICATIONS

Rhode Island: RI002

Connecticut: PH-0750

Maine: RI002

Massachusetts: RI002

New Hampshire:
Drinking Water: 242496-F
Wastewater: 242496-E

New Jersey: 78002

New York: 11313
Environmental Analysis/Water: 033976
Solid and Hazardous Waste: 033977

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486

CHAIN OF CUSTODY

Turn Time: ___Standard (2 Weeks) Other 5 day

ESS-LAB PROJECT ID 3925

Co. Name: RCA

Project #: A4640

Project Name: Taunton

Contact Person: Pat Corcoran

Address: 444 BWAY

City: Pawtucket State: RI Zip: 02860

Tel. 7-8-6860

Purchase Order #:

Fax # 727-1849

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification	Number of Containers	Type of Container	VOC 8260													
	12-18-97	1200		X	S	TP-6			X													

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: DW-Drinking Water S-Solid GW-Ground Water WW-Wastewater

Seals Intact: ____Yes ____No

Cooler Temp:________

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	12-19-97/1250	Alissa A Weaver	12/19/97 1253				

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
60							

1 (White) Lab Copy 2 (Canary) Client Receipt

ESS Laboratory

Division of Thielsch Engineering, Inc.

RECD APR 17 1998

April 9, 1998

Mr. Pat Corcoran
Resource Controls
474 Broadway Street
Pawtucket, RI 02860

Dear Mr. Corcoran:

We appreciate this opportunity to provide you with our analytical services. ESS Laboratory is committed to providing the highest quality service. Our dedication to each client includes responsiveness to emergencies, dependable, well-written reports, and client services which include the availability of all analysts to answer your inquiries.

Enclosed is your data report. The corresponding project invoice is being forwarded to your Accounts Payable Department. Samples will be disposed of thirty days after the final report is mailed. If you have any questions or concerns, please feel free to call our Customer Service Department. We value our continued relationship and look forward to hearing from you in the future.

Sincerely,

ESS LABORATORY

Laurel Stoddard
Laboratory Manager

Enclosure

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Woodbine
Client Sample ID: MW-1D
Date Sampled: 4/1/98
Date Analyzed: 4/3/1998

ESS Project ID: 980875
ESS Sample ID: 980875-01
Dilution Factor: 1
Units: µg/Kg

Parameter	Result	MRL
Dichlorofluoromethane	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	10
Methylene Chloride	ND	10
trans-1,2-Dichloroethene	ND	10
1,1-Dichloroethane	ND	10
cis-1,2-Dichloroethene	ND	10
Chloroform	ND	10
1,1,1-Trichloroethane	ND	10
Carbon Tetrachloride	ND	10
1,2-Dichloroethane	ND	10
Trichloroethene	ND	10
1,2-Dichloropropane	ND	10
Bromodichloromethane	ND	10
2-Chloroethylvinyl ether	ND	101
Cis-1,3-Dichloropropene	ND	10
Trans-1,3-Dichloropropene	ND	10
1,1,2-Trichloroethane	ND	10
Tetrachloroethene	ND	10
Dibromochloromethane	ND	10
Chlorobenzene	ND	10
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
1,2-Dichlorobenzene	ND	10

ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/4/98

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270

Client: Resource Controls
Client Project ID: Woodbine
Client Sample ID: MW-1D
Date Sampled: 4/1/98
Date Received: 4/3/1998
Date Extracted: 4/6/1998

ESS Project ID: 980875
ESS Sample ID: 980875-01
Date Analyzed: 4/13/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Soil
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3545
% Moisture (Soil): 15

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/kg (dry wt.)	RESULT	MRL	Units:	mg/kg (dry wt.)	RESULT	MRL
Diesel PAH Analytes	Naphthalene	ND	392	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	29
	2-Methylnaphthalene	ND	392	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	29
	Phenanthrene	ND	392	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	29
	Acenaphthylene	ND	392	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	29
Other PAH Target Analytes	Acenaphthene	ND	392	Sample Surrogate Acceptance Range: 40-140%			
	Anthracene	ND	392	Aliphatic Surrogate % Recovery		78	
	Benzo[a]anthracene	ND	392	Aromatic Surrogate % Recovery		97	
	Benzo[a]pyrene	ND	392	Fractionation Surrogate Acceptance Range: 60-140%			
	Benzo[b]fluoranthene	ND	392	#1 Fractionation Surrogate % Recovery		N/A	
	Benzo[k]fluoranthene	ND	392	#2 Fractionation Surrogate % Recovery		N/A	
	Chrysene	ND	392	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	392				
	Fluoranthene	ND	392				
	Fluorene	ND	392	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Indeno(1,2,3-cd)pyrene	ND	392				
	Pyrene	ND	392				
	Benzo[g,h,i]perylene	ND	392				

ND = Not detected above MRL
N/A = Not applicable
DL = Surrogate diluted out of calibration range

Approved by: _____ Date: 4/14/98

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Woodbine
Client Sample ID: MW-2D
Date Sampled: 4/2/98
Date Analyzed: 4/3/1998

ESS Project ID: 980875
ESS Sample ID: 980875-02
Dilution Factor: 1
Units: µg/Kg

Parameter	Result	MRL
Dichlorofluoromethane	ND	7
Chloromethane	ND	7
Vinyl Chloride	ND	7
Bromomethane	ND	7
Chloroethane	ND	7
Trichlorofluoromethane	ND	7
1,1-Dichloroethene	ND	7
Methylene Chloride	ND	7
trans-1,2-Dichloroethene	ND	7
1,1-Dichloroethane	ND	7
cis-1,2-Dichloroethene	ND	7
Chloroform	ND	7
1,1,1-Trichloroethane	ND	7
Carbon Tetrachloride	ND	7
1,2-Dichloroethane	ND	7
Trichloroethene	ND	7
1,2-Dichloropropane	ND	7
Bromodichloromethane	ND	7
2-Chloroethylvinyl ether	ND	70
Cis-1,3-Dichloropropene	ND	7
Trans-1,3-Dichloropropene	ND	7
1,1,2-Trichloroethane	ND	7
Tetrachloroethene	ND	7
Dibromochloromethane	ND	7
Chlorobenzene	11	7
Bromoform	ND	7
1,1,2,2-Tetrachloroethane	ND	7
1,3-Dichlorobenzene	ND	7
1,4-Dichlorobenzene	ND	7
1,2-Dichlorobenzene	ND	7

ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/14/98

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270

Client: Resource Controls
Client Project ID: Woodbine
Client Sample ID: MW-2D
Date Sampled: 4/2/98
Date Received: 4/3/1998
Date Extracted: 4/6/1998

ESS Project ID: 980875
ESS Sample ID: 980875-02
Date Analyzed: 4/13/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Soil
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3545
% Moisture (Soil): 15

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/kg (dry wt.)	RESULT	MRL	Units:	mg/kg (dry wt.)	RESULT	MRL
Diesel PAH Analytes	Naphthalene	ND	392	F1: C_5-C_{18} Aliphatic Hydrocarbons[1]		ND	29
	2-Methylnaphthalene	ND	392	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	29
	Phenanthrene	ND	392	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	29
	Acenaphthylene	ND	392	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	29
Other PAH Target Analytes	Acenaphthene	ND	392	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	392	Aliphatic Surrogate % Recovery		77	
	Benzo[a]anthracene	ND	392	Aromatic Surrogate % Recovery		97	
	Benzo[a]pyrene	ND	392	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	ND	392	#1 Fractionation Surrogate % Recovery		N/A	
	Benzo[k]fluoranthene	ND	392	#2 Fractionation Surrogate % Recovery		N/A	
	Chyrsene	ND	392	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	392				
	Fluoranthene	ND	392				
	Fluorene	ND	392	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Indeno(1,2,3-cd)pyrene	ND	392				
	Pyrene	ND	392				
	Benzo[g,h,i]perylene	ND	392				

ND = Not detected above MRL
N/A = Not applicable
DL = Surrogate diluted out of calibration range

Approved by: _____ Date: 4/14/98

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Woodbine
Client Sample ID: MW-4D
Date Sampled: 4/2/98
Date Analyzed: 4/3/1998

ESS Project ID: 980875
ESS Sample ID: 980875-03
Dilution Factor: 1
Units: µg/Kg

Parameter	Result	MRL
Dichlorofluoromethane	ND	9
Chloromethane	ND	9
Vinyl Chloride	ND	9
Bromomethane	ND	9
Chloroethane	ND	9
Trichlorofluoromethane	ND	9
1,1-Dichloroethene	ND	9
Methylene Chloride	ND	9
trans-1,2-Dichloroethene	ND	9
1,1-Dichloroethane	ND	9
cis-1,2-Dichloroethene	ND	9
Chloroform	ND	9
1,1,1-Trichloroethane	ND	9
Carbon Tetrachloride	ND	9
1,2-Dichloroethane	ND	9
Trichloroethene	ND	9
1,2-Dichloropropane	ND	9
Bromodichloromethane	ND	9
2-Chloroethylvinyl ether	ND	87
Cis-1,3-Dichloropropene	ND	9
Trans-1,3-Dichloropropene	ND	9
1,1,2-Trichloroethane	ND	9
Tetrachloroethene	ND	9
Dibromochloromethane	ND	9
Chlorobenzene	ND	9
Bromoform	ND	9
1,1,2,2-Tetrachloroethane	ND	9
1,3-Dichlorobenzene	ND	9
1,4-Dichlorobenzene	ND	9
1,2-Dichlorobenzene	ND	9

ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/14/98

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Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270

Client: Resource Controls
Client Project ID: Woodbine
Client Sample ID: MW-4D
Date Sampled: 4/2/98
Date Received: 4/3/1998
Date Extracted: 4/6/1998

ESS Project ID: 980875
ESS Sample ID: 980875-03
Date Analyzed: 4/13/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Soil
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3545
% Moisture (Soil): 13

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/kg (dry wt.)	RESULT	MRL	Units:	mg/kg (dry wt.)	RESULT	MRL
Diesel PAH Analytes	Naphthalene	ND	383	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	29
	2-Methylnaphthalene	ND	383	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	29
	Phenanthrene	ND	383	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	29
	Acenaphthylene	ND	383	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	29
Other PAH Target Analytes	Acenaphthene	ND	383	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	383	Aliphatic Surrogate % Recovery		53	
	Benzo[a]anthracene	ND	383	Aromatic Surrogate % Recovery		55	
	Benzo[a]pyrene	ND	383	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	ND	383	#1 Fractionation Surrogate % Recovery		N/A	
	Benzo[k]fluoranthene	ND	383	#2 Fractionation Surrogate % Recovery		N/A	
	Chyrsene	ND	383	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	383				
	Fluoranthene	ND	383				
	Fluorene	ND	383				
	Indeno(1,2,3-cd)pyrene	ND	383	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Pyrene	ND	383				
	Benzo[g,h,i]perylene	ND	383				

ND = Not detected above MRL
N/A = Not applicable
DL = Surrogate diluted out of calibration range

Approved by: _____ Date: 4/14/98

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QUALITY CONTROL SECTION

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS SOIL SURROGATE RECOVERY

Client: **Resource Controls**

Client Project ID: **Woodbine** ESS Project ID: **980875**

Sample ID	DCE#	TOL#	BFB#
VMA040398B1	86	97	93
980875-01	88	96	94
980875-02	86	100	95
980875-03	85	97	88

 # Column to be used to flag recovery values with an asterisk when outside the quality control range.

DCE = DICHLOROETHANE-D4 (70-121%)
TOL = TOLUENE-D8 (81-117%)
BFB = BROMOFLUOROBENZENE (74-121%)

Approved by: _____ Date: 4/15/98

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Woodbine
Client Sample ID: Method Blank
Date Sampled: N/A
Date Analyzed: 4/3/1998

ESS Project ID: 980875
ESS Sample ID: VMA040398B1
Dilution Factor: 1
Units: µg/Kg

Parameter	Result	MRL
Dichlorodifluoromethane	ND	5
Chloromethane	ND	5
Vinyl Chloride	ND	5
Bromomethane	ND	5
Chloroethane	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
Methylene Chloride	ND	5
Methyl tert-Butyl Ether	ND	5
trans-1,2-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
1,1,1-Trichloroethane	ND	5
Carbon Tetrachloride	ND	5
Benzene	ND	5
1,2-Dichloroethane	ND	5
Trichloroethene	ND	5
1,2-Dichloropropane	ND	5
Bromodichloromethane	ND	5
2-Chloroethylvinyl ether	ND	50
Cis-1,3-Dichloropropene	ND	5
Toluene	ND	5
Trans-1,3-Dichloropropene	ND	5
1,1,2-Trichloroethane	ND	5
Tetrachloroethene	ND	5
Dibromochloromethane	ND	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
Bromoform	ND	5
1,1,2,2-Tetrachloroethane	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5

N/A = Not Applicable
ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/15/98

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8100M

Client: Resource Controls
Client Project ID: Woodbine
Client Sample ID: Method Blank
Date Sampled: N/A
Date Received: N/A
Date Extracted: 4/6/1998

ESS Project ID: 980875
ESS Sample ID: 0406-B3
Date Analyzed: 4/13/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Soil
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3545
% Moisture (Soil): 0

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/kg (dry wt.)	RESULT	MRL	Units:	mg/kg (dry wt.)	RESULT	MRL
Diesel PAH Analytes	Naphthalene	ND	370	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	25
	2-Methylnaphthalene	ND	370	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	25
	Phenanthrene	ND	370	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	25
	Acenaphthylene	ND	370	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	25
Other PAH Target Analytes	Acenaphthene	ND	370	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	370	Aliphatic Surrogate % Recovery		73	
	Benzo[a]anthracene	ND	370	Aromatic Surrogate % Recovery		37	
	Benzo[a]pyrene	ND	370	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	ND	370	#1 Fractionation Surrogate % Recovery		N/A	
	Benzo[k]fluoranthene	ND	370	#2 Fractionation Surrogate % Recovery		N/A	
	Chyrsene	ND	370	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	370				
	Fluoranthene	ND	370				
	Fluorene	ND	370				
	Indeno(1,2,3-cd)pyrene	ND	370	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Pyrene	ND	370				
	Benzo[g,h,i]perylene	ND	370				

ND = Not detected above Method Reporting Limit (MRL)
N/A = Not applicable
DL = Sample diluted out of calibration range

Approved by: _____ Date: 4/15/98

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ESS LABORATORY CERTIFICATIONS

Rhode Island: 179

Connecticut: PH-0750

Maine: RI002

Massachusetts: M-RI002

New Hampshire:
Drinking Water: 242498-A
Wastewater: 242498-B

New Jersey: 78002

New York: 11313
Environmental Analysis/Water:101770
Solid and Hazardous Waste: 101770

ESS Laboratory

CHAIN OF CUSTODY

Page 1 of 1

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486

Turn Time: ___Standard (2 Weeks) Other 5-DAY

ESS-LAB PROJECT ID: 0875

Co. Name	Project #	Project Name
RESOURCE CONTROLS	A4640 006	WOODBINE

Contact Person	Address
PAT CORCORAN	474 BROADWAY

City	State	Zip	Tel.
PAWTUCKET	RI	02860-1377	728-6860

Purchase Order #	Fax #
5089	727-1849

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification	Number of Containers	Type of Container	Analysis Required: VOC 8010	EPH	PAH 8270 Low Level
	4/1/98	1200		✓	S	MW-1D	2	G	✓	✓	✓
	4/2/98	1200		✓	S	MW-2D	2	G	✓	✓	✓
	4/2/98	1500		✓	S	MW-4D	2	G	✓	✓	✓

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: DW-Drinking Water S-Solid GW-Ground Water WW-Wastewater

Seals Intact: ____Yes ____No

Cooler Temp: _____

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	4/3/98 1150	[signature]	4/3/98 1150	[signature]	4/3 1150	[signature]	4/3 1335
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

1 (White) Lab Copy 2 (Canary) Client Receipt

ESS Laboratory

Division of Thielsch Engineering, Inc.
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CHAIN OF CUSTODY

Page 1 of 1

Turn Time: ___Standard (2 Weeks) Other 5-DAY

ESS-LAB PROJECT ID:

Co. Name: RESOURCE CONTROLS
Project # A4640 006 (A4640)
Project Name: TAUNTON/WOODBINE
Contact Person: PAT CORCORAN
Address: 474 BROADWAY
City: PAWTUCKET State: RI Zip: 02860-1377 Tel.: 401 728-6860
Purchase Order #: 5097
Fax #: 401 727-1849

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification	Number of Containers	Type of Container	Analysis Required: VOCs (8010)	PAHs (8310)	EPH
	4/8/98	3:45				MW-21	4	G	✓	✓	✓
		2:20				MW-43	4	G	✓	✓	✓
		4:00				MW-D	4	G	✓	✓	✓
		2:40				MW-2D	4	G	✓	✓	✓
		2:00				MW-4D	4	G	✓	✓	✓
		4:15				MW-5	4	G	✓	✓	✓
		3:00				MW-6	4	G	✓	✓	✓
	↓	3:20				MW-7	4	G	✓	✓	✓
						MW-8P					
						MW-9P					

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: DW-Drinking Water S-Solid GW-Ground Water WW-Wastewater

Seals Intact: ___Yes ___No

Cooler Temp: ___

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	4/8 15:00		4/9 1150A				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

1 (White) Lab Copy 2 (Canary) Client Receipt

APPENDIX D

Laboratory Certificates of Groundwater Analysis

ESS Laboratory

Division of Thielsch Engineering, Inc.

December 31, 1997

Mr. Pat Corcoran
Resource Controls
474 Broadway Street
Pawtucket, RI 02860

Dear Mr. Corcoran:

We appreciate this opportunity to provide you with our analytical services. ESS Laboratory is committed to providing the highest quality service. Our dedication to each client includes responsiveness to emergencies, dependable, well-written reports, and client services which include the availability of all analysts to answer your inquiries.

Enclosed is your data report. The corresponding project invoice is being forwarded to your Accounts Payable Department. Samples will be disposed of thirty days after the final report is mailed. If you have any questions or concerns, please feel free to call our Customer Service Department. We value our continued relationship and look forward to hearing from you in the future.

Sincerely,

ESS LABORATORY

for.

Laurel Stoddard
Laboratory Manager

Enclosure

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

PROJECT NARRATIVE

CLIENT: Resource Controls
CLIENT PROJECT ID: Taunton-Woodbine St.
ESS PROJECT ID: 973936

Sample Receipt
Five liquid samples were received on December 22, 1997 for the analyses specified on the enclosed Chain of Custody Record.

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. These analyses with these noted observations are in conformance to the Quality Assurance Plan.

Dissolved Oxygen:
This analysis was not performed due to improper sampling protocol.

No other observations noted.

This signed Certificate of Analysis is our approved release of your analytical results. Beginning with this Project Narrative, the entire report has been paginated. The Chain of Custody is the final report page. This report should not be copied except in full without the approval of the laboratory.

End of project narrative.

Laurel Stoddard/Eric Baanante
Laboratory Manager/Operations Manager

12/31/97
Date

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client: **Resource Controls**
Client Project ID: **Taunton-Woodbine St.**
Client Sample ID: **MW-2**

ESS Project ID: **973936**
ESS Sample ID: **973936-01**
Date Sampled: **12/22/97**

Parameter	Result	Units	MRL	Date Analyzed	Method	Analyst
Alkalinity	127	mg/L	7	12/29/97	301.1	SM
Nitrate	1.5	mg/L	0.1	12/24/97	353.3	CTT
Chloride	50	mg/L	3	12/24/97	300.0	JAH
Chemical Oxygen Demand	7	mg/L	5	12/31/97	410.4	JAH
Total Cyanide	ND	mg/L	0.01	12/29/97	335.2	JAH
Sulfate	34	mg/L	5	12/24/97	300.0	JAH
Total Dissolved Solids	328	mg/L	5	12/29/97	160.1	CTT

ND = Not Detected above Method Reporting Limit (MRL)

Approved by: LAS Date: 1/2/98

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

DISSOLVED METALS

Client: **Resource Controls**
Client Project ID: **Taunton-Woodbine St.**
Client Sample ID: **MW-2**
Date Sampled: **12/22/97**

ESS Project ID: **973936**
ESS Sample ID: **973936-01**
Date Reported: **12/31/97**

Parameter	Result	Units	MRL	Date Analyzed	Method	Analyst
Dissolved Metals						
Arsenic	ND	mg/L	0.1	12/24/97	6010	CEL
Barium	ND	mg/L	0.2	12/24/97	6010	CEL
Cadmium	ND	mg/L	0.01	12/24/97	6010	CEL
Chromium	ND	mg/L	0.05	12/24/97	6010	CEL
Copper	ND	mg/L	0.02	12/24/97	6010	CEL
Iron	0.2 B	mg/L	0.1	12/29/97	6010	CEL
Lead	ND	mg/L	0.1	12/24/97	6010	CEL
Manganese	0.24	mg/L	0.03	12/29/97	6010	CEL
Mercury	ND	mg/L	0.0005	12/29/97	7470	CEL
Selenium	ND	mg/L	0.1	12/24/97	6010	CEL
Silver	ND	mg/L	0.01	12/24/97	6010	CEL
Zinc	0.16	mg/L	0.05	12/24/97	6010	CEL

ND = Not Detected above Method Reporting Limit (MRL)

B = Present in procedural blank at 0.2 mg/l.

Approved by: LAS Date: 1/2/98

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
Method 8260A

Client: Resource Controls
Client Project ID: Taunton-Woodbine St
Client Sample ID: MW-2
Date Sampled: 12/22/97
Date Analyzed: 12/23/1997

ESS Project ID: 973936
ESS Sample ID: 973936-01
Dilution Factor: 1
Units: ug/L

Parameter	Result	MRL	Parameter	Result	MRL
Dichlorodifluoromethane	ND	10	Chlorobenzene	ND	5
Chloromethane	ND	10	1,1,1,2-Tetrachloroethane	ND	5
Vinyl Chloride	ND	10	Ethyl Benzene	ND	5
Bromomethane	ND	10	Xylenes (Total)	ND	5
Chloroethane	ND	10	Styrene	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	Isopropylbenzene	ND	5
Methylene Chloride	ND	5	1,2,3-Trichloropropane	ND	5
Methyl tert-Butyl Ether	ND	5	Bromobenzene	ND	10
Trans-1,2-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	11	5	n-Propylbenzene	ND	5
Cis-1,2-Dichloroethene	200*	125	2-Chlorotoluene	ND	5
2,2-Dichloropropane	ND	10	4-Chlorotoluene	ND	5
Bromochloromethane	ND	10	1,3,5-Trimethylbenzene	ND	5
Chloroform	ND	5	tert-Butylbenzene	ND	5
1,1,1-Trichloroethane	39	5	1,2,4-Trimethylbenzene	ND	5
1,1-Dichloropropene	ND	10	sec-Butylbenzene	ND	5
Carbon Tetrachloride	ND	5	1,3-Dichlorobenzene	ND	5
Benzene	9	5	4-Isopropyltoluene	ND	5
1,2-Dichloroethane	ND	5	1,4-Dichlorobenzene	ND	5
Trichloroethene	950*	125	n-Butylbenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	16	5
Dibromoethane	ND	10	1,2-Dibromo-3-chloropropane	ND	5
Bromodichloromethane	ND	5	1,2,4-Trichlorobenzene	9	5
Cis-1,3-Dichloropropene	ND	5	Hexachlorobutadiene	ND	5
Toluene	ND	5	Naphthalene	ND	5
Trans-1,3-Dichloropropene	ND	5	1,2,3-Trichlorobenzene	8	5
1,1,2-Trichloroethane	ND	5	Acetone	ND	100
1,3-Dichloropropane	ND	5	2-Butanone	ND	100
Tetrachloroethene	ND	5	4-Methyl-2-pentanone	ND	50
Dibromochloromethane	ND	5	2-Hexanone	ND	50
1,2-Dibromoethane	ND	5	Carbon Disulfide	ND	5

* = Result and MRL based on 25x dilution.
ND= Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 12/31/97

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client: **Resource Controls**
Client Project ID: **Taunton-Woodbine St.**
Client Sample ID: **MW-3**

ESS Project ID: **973936**
ESS Sample ID: **973936-02**
Date Sampled: **12/22/97**

Parameter	Result	Units	MRL	Date Analyzed	Method	Analyst
Alkalinity	90	mg/L	2	12/29/97	301.1	SM
Nitrate	0.04	mg/L	0.02	12/24/97	353.3	CTT
Chloride	26	mg/L	3	12/24/97	300.0	JAH
Chemical Oxygen Demand	94	mg/L	50	12/31/97	410.4	JAH
Total Cyanide	ND	mg/L	0.01	12/29/97	335.2	JAH
Sulfate	51	mg/L	5	12/24/97	300.0	JAH
Total Dissolved Solids	287	mg/L	5	12/29/97	160.1	CTT

ND = Not Detected above Method Reporting Limit (MRL)

Approved by: UAS Date: 1/2/98

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

DISSOLVED METALS

Client: **Resource Controls**

Client Project ID: **Taunton-Woodbine St.**

Client Sample ID: **MW-3**

Date Sampled: **12/22/97**

ESS Project ID: **973936**

ESS Sample ID: **973936-02**

Date Reported: **12/31/97**

Parameter	Result	Units	MRL	Date Analyzed	Method	Analyst
Dissolved Metals						
Arsenic	ND	mg/L	0.1	12/24/97	6010	CEL
Barium	ND	mg/L	0.2	12/24/97	6010	CEL
Cadmium	ND	mg/L	0.01	12/24/97	6010	CEL
Chromium	ND	mg/L	0.05	12/24/97	6010	CEL
Copper	ND	mg/L	0.02	12/24/97	6010	CEL
Iron	0.5 B	mg/L	0.1	12/29/97	6010	CEL
Lead	0.1	mg/L	0.1	12/24/97	6010	CEL
Manganese	1.82	mg/L	0.03	12/29/97	6010	CEL
Mercury	ND	mg/L	0.0005	12/29/97	7470	CEL
Selenium	ND	mg/L	0.1	12/24/97	6010	CEL
Silver	ND	mg/L	0.01	12/24/97	6010	CEL
Zinc	ND	mg/L	0.05	12/24/97	6010	CEL

ND = Not Detected above Method Reporting Limit (MRL)

B = Present in procedural blank at 0.2 mg/l.

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Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
Method 8260A

Client: Resource Controls
Client Project ID: Taunton-Woodbine St
Client Sample ID: MW-3
Date Sampled: 12/22/97
Date Analyzed: 12/23/1997

ESS Project ID: 973936
ESS Sample ID: 973936-02
Dilution Factor: 1
Units: ug/L

Parameter	Result	MRL	Parameter	Result	MRL
Dichlorodifluoromethane	ND	10	Chlorobenzene	64	5
Chloromethane	ND	10	1,1,1,2-Tetrachloroethane	ND	5
Vinyl Chloride	ND	10	Ethyl Benzene	ND	5
Bromomethane	ND	10	Xylenes (Total)	ND	5
Chloroethane	ND	10	Styrene	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	Isopropylbenzene	ND	5
Methylene Chloride	ND	5	1,2,3-Trichloropropane	ND	5
Methyl tert-Butyl Ether	ND	5	Bromobenzene	ND	10
Trans-1,2-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	19	5	n-Propylbenzene	ND	5
Cis-1,2-Dichloroethene	79	5	2-Chlorotoluene	ND	5
2,2-Dichloropropane	ND	10	4-Chlorotoluene	ND	5
Bromochloromethane	ND	10	1,3,5-Trimethylbenzene	ND	5
Chloroform	ND	5	tert-Butylbenzene	ND	5
1,1,1-Trichloroethane	48	5	1,2,4-Trimethylbenzene	ND	5
1,1-Dichloropropene	ND	10	sec-Butylbenzene	ND	5
Carbon Tetrachloride	ND	5	1,3-Dichlorobenzene	ND	5
Benzene	ND	5	4-Isopropyltoluene	ND	5
1,2-Dichloroethane	ND	5	1,4-Dichlorobenzene	ND	5
Trichloroethene	255*	25	n-Butylbenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	15	5
Dibromoethane	ND	10	1,2-Dibromo-3-chloropropane	ND	5
Bromodichloromethane	ND	5	1,2,4-Trichlorobenzene	27	5
Cis-1,3-Dichloropropene	ND	5	Hexachlorobutadiene	ND	5
Toluene	ND	5	Naphthalene	ND	5
Trans-1,3-Dichloropropene	ND	5	1,2,3-Trichlorobenzene	16	5
1,1,2-Trichloroethane	ND	5	Acetone	ND	100
1,3-Dichloropropane	ND	5	2-Butanone	ND	100
Tetrachloroethene	ND	5	4-Methyl-2-pentanone	ND	50
Dibromochloromethane	ND	5	2-Hexanone	ND	50
1,2-Dibromoethane	ND	5	Carbon Disulfide	ND	5

* = Result and MRL based on 5x dilution.
ND= Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 12/31/97

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client: **Resource Controls**
Client Project ID: **Taunton-Woodbine St.**
Client Sample ID: **MW-4**

ESS Project ID: **973936**
ESS Sample ID: **973936-03**
Date Sampled: **12/22/97**

Parameter	Result	Units	MRL	Date Analyzed	Method	Analyst
Alkalinity	69	mg/L	2	12/29/97	301.1	SM
Nitrate	ND	mg/L	0.02	12/24/97	353.3	CTT
Chloride	37	mg/L	3	12/24/97	300.0	JAH
Chemical Oxygen Demand	120	mg/L	50	12/31/97	410.4	JAH
Total Cyanide	ND	mg/L	0.01	12/29/97	335.2	JAH
Sulfate	32	mg/L	5	12/24/97	300.0	JAH
Total Dissolved Solids	280	mg/L	5	12/29/97	160.1	CTT

ND = Not Detected above Method Reporting Limit (MRL)

Approved by: UAS Date: 1/2/98

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CERTIFICATE OF ANALYSIS

DISSOLVED METALS

Client: **Resource Controls**
Client Project ID: **Taunton-Woodbine St.**
Client Sample ID: **MW-4**
Date Sampled: **12/22/97**

ESS Project ID: **973936**
ESS Sample ID: **973936-03**
Date Reported: **12/31/97**

Parameter	Result	Units	MRL	Date Analyzed	Method	Analyst
Dissolved Metals						
Arsenic	ND	mg/L	0.1	12/24/97	6010	CEL
Barium	ND	mg/L	0.2	12/24/97	6010	CEL
Cadmium	ND	mg/L	0.01	12/24/97	6010	CEL
Chromium	ND	mg/L	0.05	12/24/97	6010	CEL
Copper	ND	mg/L	0.02	12/24/97	6010	CEL
Iron	3.6 B	mg/L	0.1	12/29/97	6010	CEL
Lead	ND	mg/L	0.1	12/24/97	6010	CEL
Manganese	1.34	mg/L	0.03	12/29/97	6010	CEL
Mercury	ND	mg/L	0.0005	12/29/97	7470	CEL
Selenium	ND	mg/L	0.1	12/24/97	6010	CEL
Silver	ND	mg/L	0.01	12/24/97	6010	CEL
Zinc	ND	mg/L	0.05	12/24/97	6010	CEL

ND = Not Detected above Method Reporting Limit (MRL)

B = Present in procedural blank at 0.2 mg/l.

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Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
Method 8260A

Client: Resource Controls
Client Project ID: Taunton-Woodbine St
Client Sample ID: MW-4
Date Sampled: 12/22/97
Date Analyzed: 12/23/1997

ESS Project ID: 973936
ESS Sample ID: 973936-03
Dilution Factor: 1
Units: ug/L

Parameter	Result	MRL	Parameter	Result	MRL
Dichlorodifluoromethane	ND	10	Chlorobenzene	250*	125
Chloromethane	ND	10	1,1,1,2-Tetrachloroethane	ND	5
Vinyl Chloride	36	10	Ethyl Benzene	15	5
Bromomethane	ND	10	Xylenes (Total)	15	5
Chloroethane	ND	10	Styrene	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	Isopropylbenzene	ND	5
Methylene Chloride	ND	5	1,2,3-Trichloropropane	ND	5
Methyl tert-Butyl Ether	ND	5	Bromobenzene	ND	10
Trans-1,2-Dichloroethene	6	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	64	5	n-Propylbenzene	ND	5
Cis-1,2-Dichloroethene	350*	125	2-Chlorotoluene	ND	5
2,2-Dichloropropane	ND	10	4-Chlorotoluene	ND	5
Bromochloromethane	ND	10	1,3,5-Trimethylbenzene	ND	5
Chloroform	ND	5	tert-Butylbenzene	ND	5
1,1,1-Trichloroethane	175*	125	1,2,4-Trimethylbenzene	ND	5
1,1-Dichloropropene	ND	10	sec-Butylbenzene	ND	5
Carbon Tetrachloride	ND	5	1,3-Dichlorobenzene	ND	5
Benzene	ND	5	4-Isopropyltoluene	ND	5
1,2-Dichloroethane	ND	5	1,4-Dichlorobenzene	ND	5
Trichloroethene	725*	125	n-Butylbenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	13	5
Dibromoethane	ND	10	1,2-Dibromo-3-chloropropane	ND	5
Bromodichloromethane	ND	5	1,2,4-Trichlorobenzene	69	5
Cis-1,3-Dichloropropene	ND	5	Hexachlorobutadiene	ND	5
Toluene	7	5	Naphthalene	ND	5
Trans-1,3-Dichloropropene	ND	5	1,2,3-Trichlorobenzene	43	5
1,1,2-Trichloroethane	ND	5	Acetone	385	100
1,3-Dichloropropane	ND	5	2-Butanone	ND	100
Tetrachloroethene	ND	5	4-Methyl-2-pentanone	ND	50
Dibromochloromethane	ND	5	2-Hexanone	ND	50
1,2-Dibromoethane	ND	5	Carbon Disulfide	ND	5

* = Result and MRL based on 25x dilution.
ND= Not Detected above Method Reporting Limit (MRL)

Approved by: LAS Date: 12/31/97

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client: **Resource Controls**
Client Project ID: **Taunton-Woodbine St.**
Client Sample ID: **MW-1**

ESS Project ID: **973936**
ESS Sample ID: **973936-04**
Date Sampled: **12/22/97**

Parameter	Result	Units	MRL	Date Analyzed	Method	Analyst
Alkalinity	30	mg/L	2	12/29/97	301.1	SM
Nitrate	1.9	mg/L	0.1	12/24/97	353.3	CTT
Chloride	38	mg/L	3	12/24/97	300.0	JAH
Chemical Oxygen Demand	ND	mg/L	5	12/31/97	410.4	JAH
Total Cyanide	ND	mg/L	0.01	12/29/97	335.2	JAH
Sulfate	20	mg/L	5	12/24/97	300.0	JAH
Total Dissolved Solids	116	mg/L	5	12/29/97	160.1	CTT

ND = Not Detected above Method Reporting Limit (MRL)

Approved by: UAS Date: 1/2/98

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Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

DISSOLVED METALS

Client: **Resource Controls**
Client Project ID: **Taunton-Woodbine St.**
Client Sample ID: **MW-1**
Date Sampled: **12/22/97**

ESS Project ID: **973936**
ESS Sample ID: **973936-04**
Date Reported: **12/31/97**

Parameter	Result	Units	MRL	Date Analyzed	Method	Analyst
Dissolved Metals						
Arsenic	ND	mg/L	0.1	12/24/97	6010	CEL
Barium	ND	mg/L	0.2	12/24/97	6010	CEL
Cadmium	ND	mg/L	0.01	12/24/97	6010	CEL
Chromium	ND	mg/L	0.05	12/24/97	6010	CEL
Copper	ND	mg/L	0.02	12/24/97	6010	CEL
Iron	0.2 B	mg/L	0.1	12/29/97	6010	CEL
Lead	ND	mg/L	0.1	12/24/97	6010	CEL
Manganese	0.24	mg/L	0.03	12/29/97	6010	CEL
Mercury	ND	mg/L	0.0005	12/29/97	7470	CEL
Selenium	ND	mg/L	0.1	12/24/97	6010	CEL
Silver	ND	mg/L	0.01	12/24/97	6010	CEL
Zinc	ND	mg/L	0.05	12/24/97	6010	CEL

ND = Not Detected above Method Reporting Limit (MRL)

B = Present in procedural blank at 0.2 mg/l.

Approved by: _____ Date: 1/2/98

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CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
Method 8260A

Client: Resource Controls
Client Project ID: Taunton-Woodbine St
Client Sample ID: MW-1
Date Sampled: 12/22/97
Date Analyzed: 12/23/1997

ESS Project ID: 973936
ESS Sample ID: 973936-04
Dilution Factor: 1
Units: ug/L

Parameter	Result	MRL	Parameter	Result	MRL
Dichlorodifluoromethane	ND	10	Chlorobenzene	ND	5
Chloromethane	ND	10	1,1,1,2-Tetrachloroethane	ND	5
Vinyl Chloride	ND	10	Ethyl Benzene	ND	5
Bromomethane	ND	10	Xylenes (Total)	ND	5
Chloroethane	ND	10	Styrene	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	Isopropylbenzene	ND	5
Methylene Chloride	ND	5	1,2,3-Trichloropropane	ND	5
Methyl tert-Butyl Ether	ND	5	Bromobenzene	ND	10
Trans-1,2-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	n-Propylbenzene	ND	5
Cis-1,2-Dichloroethene	10	5	2-Chlorotoluene	ND	5
2,2-Dichloropropane	ND	10	4-Chlorotoluene	ND	5
Bromochloromethane	ND	10	1,3,5-Trimethylbenzene	ND	5
Chloroform	ND	5	tert-Butylbenzene	ND	5
1,1,1-Trichloroethane	11	5	1,2,4-Trimethylbenzene	ND	5
1,1-Dichloropropene	ND	10	sec-Butylbenzene	ND	5
Carbon Tetrachloride	ND	5	1,3-Dichlorobenzene	ND	5
Benzene	ND	5	4-Isopropyltoluene	ND	5
1,2-Dichloroethane	ND	5	1,4-Dichlorobenzene	ND	5
Trichloroethene	230*	25	n-Butylbenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
Dibromoethane	ND	10	1,2-Dibromo-3-chloropropane	ND	5
Bromodichloromethane	ND	5	1,2,4-Trichlorobenzene	ND	5
Cis-1,3-Dichloropropene	ND	5	Hexachlorobutadiene	ND	5
Toluene	ND	5	Naphthalene	ND	5
Trans-1,3-Dichloropropene	ND	5	1,2,3-Trichlorobenzene	ND	5
1,1,2-Trichloroethane	ND	5	Acetone	ND	100
1,3-Dichloropropane	ND	5	2-Butanone	ND	100
Tetrachloroethene	ND	5	4-Methyl-2-pentanone	ND	50
Dibromochloromethane	ND	5	2-Hexanone	ND	50
1,2-Dibromoethane	ND	5	Carbon Disulfide	ND	5

* = Result and MRL based on 5x dilution.
ND= Not Detected above Method Reporting Limit (MRL)

Approved by: UAS Date: 12/31/97

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Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
Method 8260A

Client: Resource Controls
Client Project ID: Taunton-Woodbine St
Client Sample ID: Trip Blank
Date Sampled: 12/22/97
Date Analyzed: 12/23/1997

ESS Project ID: 973936
ESS Sample ID: 973936-05
Dilution Factor: 1
Units: ug/L

Parameter	Result	MRL	Parameter	Result	MRL
Dichlorodifluoromethane	ND	10	Chlorobenzene	ND	5
Chloromethane	ND	10	1,1,1,2-Tetrachloroethane	ND	5
Vinyl Chloride	ND	10	Ethyl Benzene	ND	5
Bromomethane	ND	10	Xylenes (Total)	ND	5
Chloroethane	ND	10	Styrene	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	Isopropylbenzene	ND	5
Methylene Chloride	ND	5	1,2,3-Trichloropropane	ND	5
Methyl tert-Butyl Ether	ND	5	Bromobenzene	ND	10
Trans-1,2-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	n-Propylbenzene	ND	5
Cis-1,2-Dichloroethene	ND	5	2-Chlorotoluene	ND	5
2,2-Dichloropropane	ND	10	4-Chlorotoluene	ND	5
Bromochloromethane	ND	10	1,3,5-Trimethylbenzene	ND	5
Chloroform	ND	5	tert-Butylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	1,2,4-Trimethylbenzene	ND	5
1,1-Dichloropropene	ND	10	sec-Butylbenzene	ND	5
Carbon Tetrachloride	ND	5	1,3-Dichlorobenzene	ND	5
Benzene	ND	5	4-Isopropyltoluene	ND	5
1,2-Dichloroethane	ND	5	1,4-Dichlorobenzene	ND	5
Trichloroethene	ND	5	n-Butylbenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
Dibromoethane	ND	10	1,2-Dibromo-3-chloropropane	ND	5
Bromodichloromethane	ND	5	1,2,4-Trichlorobenzene	ND	5
Cis-1,3-Dichloropropene	ND	5	Hexachlorobutadiene	ND	5
Toluene	ND	5	Naphthalene	ND	5
Trans-1,3-Dichloropropene	ND	5	1,2,3-Trichlorobenzene	ND	5
1,1,2-Trichloroethane	ND	5	Acetone	ND	100
1,3-Dichloropropane	ND	5	2-Butanone	ND	100
Tetrachloroethene	ND	5	4-Methyl-2-pentanone	ND	50
Dibromochloromethane	ND	5	2-Hexanone	ND	50
1,2-Dibromoethane	ND	5	Carbon Disulfide	ND	5

ND= Not Detected above Method Reporting Limit (MRL)

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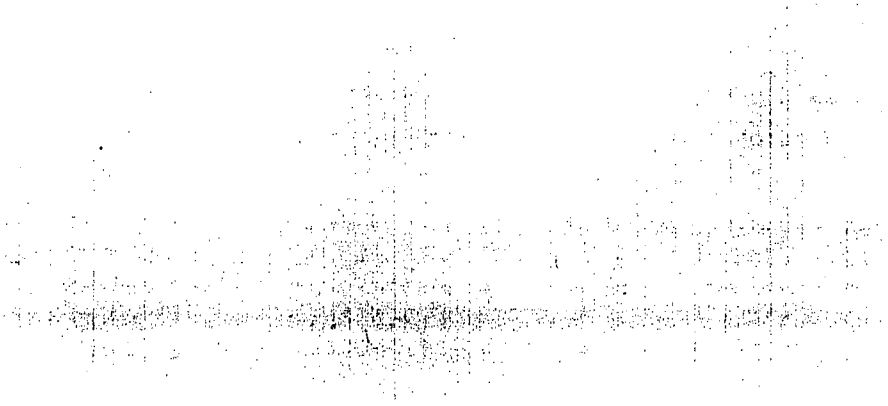

QUALITY CONTROL SECTION

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS AQUEOUS SURROGATE RECOVERY

Client: **Resource Controls**

Client Project ID: **Taunton-Woodbine St.** ESS Project ID: **973936**

Sample ID	DCE# %	TOL# %	BFB# %
VMB122397B1	106	110	111
973936-01	107	108	109
973936-01 (25x)	114	102	112
973936-02	110	99	106
973936-02 (5x)	112	104	110
973639-03	103	106	102
973639-03 (25x)	112	102	107
973936-04	106	105	109
973936-05	106	105	108
VMB122497B1	109	106	107
973936-04 (5x)	105	105	108

Column to be used to flag recovery values with an asterisk when outside the quality control range.

DCE = 1,2 DICHLOROETHANE-D4 (76-114%)
TOL = TOLUENE-D8 (86-110%)
BFB = BROMOFLUOROBENZENE (86-115%)

Approved by: LAS Date: 12/31/97

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Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
Method 8260

Client: Resource Controls
Client Project ID: Taunton-Woodbine St
Client Sample ID: Method Blank
Date Sampled: N/A
Date Analyzed: 12/23/1997

ESS Project ID: 973936
ESS Sample ID: VMB122397B1
Dilution Factor: 1
Units: ug/L

Parameter	Result	MRL	Parameter	Result	MRL
Dichlorodifluoromethane	ND	10	Chlorobenzene	ND	5
Chloromethane	ND	10	1,1,1,2-Tetrachloroethane	ND	5
Vinyl Chloride	ND	10	Ethyl Benzene	ND	5
Bromomethane	ND	10	Xylenes (Total)	ND	5
Chloroethane	ND	10	Styrene	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	Isopropylbenzene	ND	5
Methylene Chloride	ND	5	1,2,3-Trichloropropane	ND	5
Methyl tert-Butyl Ether	ND	5	Bromobenzene	ND	10
Trans-1,2-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	n-Propylbenzene	ND	5
Cis-1,2-Dichloroethene	ND	5	2-Chlorotoluene	ND	5
2,2-Dichloropropane	ND	10	4-Chlorotoluene	ND	5
Bromochloromethane	ND	10	1,3,5-Trimethylbenzene	ND	5
Chloroform	ND	5	tert-Butylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	1,2,4-Trimethylbenzene	ND	5
1,1-Dichloropropene	ND	10	sec-Butylbenzene	ND	5
Carbon Tetrachloride	ND	5	1,3-Dichlorobenzene	ND	5
Benzene	ND	5	4-Isopropyltoluene	ND	5
1,2-Dichloroethane	ND	5	1,4-Dichlorobenzene	ND	5
Trichloroethene	ND	5	n-Butylbenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
Dibromoethane	ND	10	1,2-Dibromo-3-chloropropane	ND	5
Bromodichloromethane	ND	5	1,2,4-Trichlorobenzene	ND	5
Cis-1,3-Dichloropropene	ND	5	Hexachlorobutadiene	ND	5
Toluene	ND	5	Naphthalene	ND	5
Trans-1,3-Dichloropropene	ND	5	1,2,3-Trichlorobenzene	ND	5
1,1,2-Trichloroethane	ND	5	Acetone	ND	100
1,3-Dichloropropane	ND	5	2-Butanone	ND	100
Tetrachloroethene	ND	5	4-Methyl-2-pentanone	ND	50
Dibromochloromethane	ND	5	2-Hexanone	ND	50
1,2-Dibromoethane	ND	5	Carbon Disulfide	ND	5

N/A = Not Applicable
ND= Not Detected above Method Reporting Limit (MRL)

Approved by: LDS Date: 12/31/97

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
Method 8260

Client: Resource Controls
Client Project ID: Taunton-Woodbine St
Client Sample ID: Method Blank
Date Sampled: N/A
Date Analyzed: 12/24/1997

ESS Project ID: 973936
ESS Sample ID: VMB122497B1
Dilution Factor: 1
Units: ug/L

Parameter	Result	MRL	Parameter	Result	MRL
Dichlorodifluoromethane	ND	10	Chlorobenzene	ND	5
Chloromethane	ND	10	1,1,1,2-Tetrachloroethane	ND	5
Vinyl Chloride	ND	10	Ethyl Benzene	ND	5
Bromomethane	ND	10	Xylenes (Total)	ND	5
Chloroethane	ND	10	Styrene	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	Isopropylbenzene	ND	5
Methylene Chloride	ND	5	1,2,3-Trichloropropane	ND	5
Methyl tert-Butyl Ether	ND	5	Bromobenzene	ND	10
Trans-1,2-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	n-Propylbenzene	ND	5
Cis-1,2-Dichloroethene	ND	5	2-Chlorotoluene	ND	5
2,2-Dichloropropane	ND	10	4-Chlorotoluene	ND	5
Bromochloromethane	ND	10	1,3,5-Trimethylbenzene	ND	5
Chloroform	ND	5	tert-Butylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	1,2,4-Trimethylbenzene	ND	5
1,1-Dichloropropene	ND	10	sec-Butylbenzene	ND	5
Carbon Tetrachloride	ND	5	1,3-Dichlorobenzene	ND	5
Benzene	ND	5	4-Isopropyltoluene	ND	5
1,2-Dichloroethane	ND	5	1,4-Dichlorobenzene	ND	5
Trichloroethene	ND	5	n-Butylbenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
Dibromoethane	ND	10	1,2-Dibromo-3-chloropropane	ND	5
Bromodichloromethane	ND	5	1,2,4-Trichlorobenzene	ND	5
Cis-1,3-Dichloropropene	ND	5	Hexachlorobutadiene	ND	5
Toluene	ND	5	Naphthalene	ND	5
Trans-1,3-Dichloropropene	ND	5	1,2,3-Trichlorobenzene	ND	5
1,1,2-Trichloroethane	ND	5	Acetone	ND	100
1,3-Dichloropropane	ND	5	2-Butanone	ND	100
Tetrachloroethene	ND	5	4-Methyl-2-pentanone	ND	50
Dibromochloromethane	ND	5	2-Hexanone	ND	50
1,2-Dibromoethane	ND	5	Carbon Disulfide	ND	5

N/A = Not Applicable
ND= Not Detected above Method Reporting Limit (MRL)

Approved by: LAS Date: 12/31/97

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS LABORATORY CERTIFICATIONS

Rhode Island: RI002

Connecticut: PH-0750

Maine: RI002

Massachusetts: RI002

New Hampshire:
Drinking Water: 242496-F
Wastewater: 242496-E

New Jersey: 78002

New York: 11313
Environmental Analysis/Water: 033976
Solid and Hazardous Waste: 033977

ESS Laboratory

CHAIN OF CUSTODY

Page ___ of ___

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486

Turn Time: ___Standard (2 Weeks) Other 5-DAY

ESS-LAB PROJECT ID: 3936

Co. Name	Project #	Project Name
RESOURCE CONTROLS	A4640 004	TAUNTON — WOODBINE ST

Contact Person	Address
PAT CORCORAN	474 BROADWAY

City	State	Zip	Tel.
PAWTUCKET	RI	02860-1377	401 728-6860

Purchase Order # 4955 Fax # 401 727-1849

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification	Number of Containers	Type of Container	Analysis Required: SOIL-8260	ALKALINITY	NITRATE NITROGEN	TOTAL DISS. SOLIDS	CHLORIDE	SULFATE	COD	DO	CN	RCRA-8 DISSOLV.	FE DISSOLV.	MN DISSOLV.	AR-8260	CU DISSOL
	12-22-97	1230		✓	GW	~~MW-1~~ MW-2	9	P/G/V		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	↓	1300		✓	GW	~~MW-2~~ MW-3	9	↓		✓	✓	✓	/	✓	/	✓	✓	✓	✓	✓	✓	✓
		1330		✓	GW	~~MW-3~~ MW-4	9			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		1400		✓	GW	~~MW-4~~ MW-1	9			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
						trip blank																
				✓	S	~~MW-6~~	1	G														

ZN DISSOL ✓ ✓ ✓ ✓

Container Type: (P-Poly) (G-Glass) S-Sterile (V-VOA)

Matrix: DW-Drinking Water S-Solid GW-Ground Water WW-Wastewater

Seals Intact: ___Yes ___No

Cooler Temp: ___

Comments: METALS ANALYSIS — FILTER IN LAB

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	12/22 4:30	[signature]	12/22 4:30	[signature]	12/23 4:50	[signature] Weaver	12/23 17:15
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

1 (White) Lab Copy 2 (Canary) Client Receipt

ESS Laboratory

Division of Thielsch Engineering, Inc.

REC'D APR 2 7 1998

April 15, 1998

Mr. Pat Corcoran
Resource Controls
474 Broadway Street
Pawtucket, RI 02860

Dear Mr. Corcoran:

We appreciate this opportunity to provide you with our analytical services. ESS Laboratory is committed to providing the highest quality service. Our dedication to each client includes responsiveness to emergencies, dependable, well-written reports, and client services which include the availability of all analysts to answer your inquiries.

Enclosed is your data report. The corresponding project invoice is being forwarded to your Accounts Payable Department. Samples will be disposed of thirty days after the final report has been mailed. If you have any questions or concerns, please feel free to call our Customer Service Department. We value our continued relationship and look forward to hearing from you in the future.

Sincerely,

ESS LABORATORY

Laurel Stoddard
Laboratory Manager

Enclosure

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

PROJECT NARRATIVE

CLIENT: Resource Controls
CLIENT PROJECT ID: Taunton/Woodbine
ESS PROJECT ID: 980957

Sample Receipt
Eight liquid samples were received on April 9, 1998 for the analyses specified on the enclosed Chain of Custody Record.

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. These analyses with these noted observations are in conformance to the Quality Assurance Plan.

No unusual observations noted.

This signed Certificate of Analysis is our approved release of your analytical results. Beginning with this Project Narrative, the entire report has been paginated. The Chain of Custody is the final report page. This report should not be copied except in full without the approval of the laboratory.

End of project narrative.

Laurel Stoddard/Eric Baanante
Laboratory Manager/Operations Manager

4/23/98
Date

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-1
Date Sampled: 4/8/98
Date Analyzed: 4/10/1998

ESS Project ID: 980957
ESS Sample ID: 980957-01
Dilution Factor: 1
Units: µg/L
Analyst: MB

Parameter	Result	MRL
Dichlorofluoromethane	ND	1
Chloromethane	ND	1
Vinyl Chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	1
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	5	1
Chloroform	ND	1
1,1,1-Trichloroethane	11	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	160*	10
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
2-Chloroethylvinyl ether	ND	10
Cis-1,3-Dichloropropene	ND	1
Trans-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	ND	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

* = Result and MRL based on 10x dilution.
ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/21/98

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270 (SIM)

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-1
Date Sampled: 4/8/98
Date Received: 4/9/1998
Date Extracted: 4/13/1998

ESS Project ID: 980957
ESS Sample ID: 980957-01
Date Analyzed: 4/16/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Aqueous
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3510
% Moisture (Soil): 0

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/l	RESULT	MRL	Units:	mg/l	RESULT	MRL
Diesel PAH Analytes	Naphthalene	ND	0.2	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	0.5
	2-Methylnaphthalene	ND	0.2	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	0.5
	Phenanthrene	ND	0.2	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	0.5
	Acenaphthylene	ND	0.2	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	0.5
Other PAH Target Analytes	Acenaphthene	0.23	0.2	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	0.2	Aliphatic Surrogate % Recovery		74	
	Benzo[a]anthracene	ND	0.2	Aromatic Surrogate % Recovery		89	
	Benzo[a]pyrene	ND	0.2	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	ND	0.2	#1 Fractionation Surrogate % Recovery		89	
	Benzo[k]fluoranthene	ND	0.1	#2 Fractionation Surrogate % Recovery		97	
	Chyrsene	ND	0.2	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	0.2				
	Fluoranthene	ND	0.2				
	Fluorene	ND	0.2				
	Indeno(1,2,3-cd)pyrene	ND	0.2	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Pyrene	ND	0.2				
	Benzo[g,h,i]perylene	ND	0.2				

ND = Not detected above MRL
N/A = Not applicable
DL = Surrogate diluted out of calibration range

Approved by: _____ Date: 4/21/98

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-3
Date Sampled: 4/8/98
Date Analyzed: 4/10/1998

ESS Project ID: 980957
ESS Sample ID: 980957-02
Dilution Factor: 1
Units: µg/L
Analyst: MB

Parameter	Result	MRL
Dichlorofluoromethane	ND	1
Chloromethane	ND	1
Vinyl Chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	2	1
Methylene Chloride	1 B	1
trans-1,2-Dichloroethene	4	1
1,1-Dichloroethane	19	1
cis-1,2-Dichloroethene	325*	25
Chloroform	1	1
1,1,1-Trichloroethane	175*	25
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	1050*	25
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
2-Chloroethylvinyl ether	ND	10
Cis-1,3-Dichloropropene	ND	1
Trans-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	6	1
Dibromochloromethane	ND	1
Chlorobenzene	126	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	1	1
1,4-Dichlorobenzene	11	1
1,2-Dichlorobenzene	51	1

* = Result and MRL based on 25x dilution. B = Present in associated method blank.
ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/21/98

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270 (SIM)

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-3
Date Sampled: 4/8/98
Date Received: 4/9/1998
Date Extracted: 4/13/1998

ESS Project ID: 980957
ESS Sample ID: 980957-02
Date Analyzed: 4/16/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Aqueous
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3510
% Moisture (Soil): 0

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/l	RESULT	MRL	Units:	mg/l	RESULT	MRL
Diesel PAH Analytes	Naphthalene	4.0	0.2	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	0.5
	2-Methylnaphthalene	ND	0.2	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	0.5
	Phenanthrene	ND	0.2	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	0.5
	Acenaphthylene	ND	0.2	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	0.5
Other PAH Target Analytes	Acenaphthene	ND	0.2	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	0.2	Aliphatic Surrogate % Recovery		61	
	Benzo[a]anthracene	ND	0.2	Aromatic Surrogate % Recovery		94	
	Benzo[a]pyrene	ND	0.2	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	ND	0.2	#1 Fractionation Surrogate % Recovery		90	
	Benzo[k]fluoranthene	ND	0.1	#2 Fractionation Surrogate % Recovery		77	
	Chrysene	ND	0.2	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	0.2				
	Fluoranthene	ND	0.2				
	Fluorene	ND	0.2				
	Indeno(1,2,3-cd)pyrene	ND	0.2	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Pyrene	ND	0.2				
	Benzo[g,h,i]perylene	ND	0.2				

ND = Not detected above MRL
N/A = Not applicable
DL = Surrogate diluted out of calibration range

Approved by: _____ Date: 4/21/98

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-1D
Date Sampled: 4/8/98
Date Analyzed: 4/10/1998

ESS Project ID: 980957
ESS Sample ID: 980957-03
Dilution Factor: 1
Units: µg/L
Analyst: MB

Parameter	Result	MRL
Dichlorofluoromethane	ND	1
Chloromethane	ND	1
Vinyl Chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	1
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
Chloroform	2	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	ND	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
2-Chloroethylvinyl ether	ND	10
Cis-1,3-Dichloropropene	ND	1
Trans-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	ND	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/21/98

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270 (SIM)

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-1D
Date Sampled: 4/8/98
Date Received: 4/9/1998
Date Extracted: 4/13/1998

ESS Project ID: 980957
ESS Sample ID: 980957-03
Date Analyzed: 4/16/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Aqueous
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3510
% Moisture (Soil): 0

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/l	RESULT	MRL	Units:	mg/l	RESULT	MRL
Diesel PAH Analytes	Naphthalene	ND	0.2	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	0.5
	2-Methylnaphthalene	ND	0.2	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	0.5
	Phenanthrene	ND	0.2	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	0.5
	Acenaphthylene	ND	0.2	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	0.5
Other PAH Target Analytes	Acenaphthene	ND	0.2	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	0.2	Aliphatic Surrogate % Recovery		53	
	Benzo[a]anthracene	ND	0.2	Aromatic Surrogate % Recovery		98	
	Benzo[a]pyrene	ND	0.2	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	ND	0.2	#1 Fractionation Surrogate % Recovery		94	
	Benzo[k]fluoranthene	ND	0.1	#2 Fractionation Surrogate % Recovery		92	
	Chyrsene	ND	0.2	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	0.2				
	Fluoranthene	ND	0.2				
	Fluorene	ND	0.2				
	Indeno(1,2,3-cd)pyrene	ND	0.2	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Pyrene	ND	0.2				
	Benzo[g,h,i]perylene	ND	0.2				

ND = Not detected above MRL
N/A = Not applicable
DL = Surrogate diluted out of calibration range

Approved by: _____ Date: 4/21/98

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-2D
Date Sampled: 4/8/98
Date Analyzed: 4/10/1998

ESS Project ID: 980957
ESS Sample ID: 980957-04
Dilution Factor: 1
Units: µg/L
Analyst: MB

Parameter	Result	MRL
Dichlorofluoromethane	ND	1
Chloromethane	ND	1
Vinyl Chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene Chloride	4 B	1
trans-1,2-Dichloroethene	2	1
1,1-Dichloroethane	10	1
cis-1,2-Dichloroethene	125*	25
Chloroform	ND	1
1,1,1-Trichloroethane	175*	25
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	1230*	25
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
2-Chloroethylvinyl ether	ND	10
Cis-1,3-Dichloropropene	ND	1
Trans-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	4	1
Dibromochloromethane	ND	1
Chlorobenzene	2	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	2	1

* = Result and MRL based on 25x dilution. B = Present in associated method blank.
ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/15/98

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270 (SIM)

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-2D
Date Sampled: 4/8/98
Date Received: 4/9/1998
Date Extracted: 4/13/1998

ESS Project ID: 980957
ESS Sample ID: 980957-04
Date Analyzed: 4/16/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Aqueous
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3510
% Moisture (Soil): 0

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/l	RESULT	MRL	Units:	mg/l	RESULT	MRL
Diesel PAH Analytes	Naphthalene	ND	0.2	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	0.5
	2-Methylnaphthalene	ND	0.2	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	0.5
	Phenanthrene	ND	0.2	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	0.5
	Acenaphthylene	ND	0.2	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	0.5
Other PAH Target Analytes	Acenaphthene	ND	0.2	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	0.2	Aliphatic Surrogate % Recovery		61	
	Benzo[a]anthracene	ND	0.2	Aromatic Surrogate % Recovery		101	
	Benzo[a]pyrene	ND	0.2	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	ND	0.2	#1 Fractionation Surrogate % Recovery		90	
	Benzo[k]fluoranthene	ND	0.1	#2 Fractionation Surrogate % Recovery		92	
	Chyrsene	ND	0.2	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	0.2				
	Fluoranthene	ND	0.2				
	Fluorene	ND	0.2				
	Indeno(1,2,3-cd)pyrene	ND	0.2	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Pyrene	ND	0.2				
	Benzo[g,h,i]perylene	ND	0.2				

ND = Not detected above MRL
N/A = Not applicable
DL = Surrogate diluted out of calibration range

Approved by: _____ Date: 4/14/98

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ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-4D
Date Sampled: 4/8/98
Date Analyzed: 4/10/1998

ESS Project ID: 980957
ESS Sample ID: 980957-05
Dilution Factor: 1
Units: µg/L
Analyst: MB

Parameter	Result	MRL
Dichlorofluoromethane	ND	1
Chloromethane	4	1
Vinyl Chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	12	1
Methylene Chloride	2 B	1
trans-1,2-Dichloroethene	3	1
1,1-Dichloroethane	27	1
cis-1,2-Dichloroethene	375*	25
Chloroform	2	1
1,1,1-Trichloroethane	275*	25
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	775*	25
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
2-Chloroethylvinyl ether	ND	10
Cis-1,3-Dichloropropene	ND	1
Trans-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	1	1
Tetrachloroethene	4	1
Dibromochloromethane	ND	1
Chlorobenzene	300*	25
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	2	1
1,2-Dichlorobenzene	15	1

* = Result and MRL based on 25x dilution. B = Present in associated method blank.
ND = Not Detected above Method Reporting Limit (MRL)

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CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270 (SIM)

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-4D
Date Sampled: 4/8/98
Date Received: 4/9/1998
Date Extracted: 4/13/1998

ESS Project ID: 980957
ESS Sample ID: 980957-05
Date Analyzed: 4/16/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Aqueous
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3510
% Moisture (Soil): 0

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/l	RESULT	MRL	Units:	mg/l	RESULT	MRL
Diesel PAH Analytes	Naphthalene	0.37	0.2	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	0.5
	2-Methylnaphthalene	ND	0.2	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	0.5
	Phenanthrene	ND	0.2	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	0.5
	Acenaphthylene	ND	0.2	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	0.5
Other PAH Target Analytes	Acenaphthene	ND	0.2	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	0.2	Aliphatic Surrogate % Recovery		69	
	Benzo[a]anthracene	ND	0.2	Aromatic Surrogate % Recovery		100	
	Benzo[a]pyrene	ND	0.2	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	ND	0.2	#1 Fractionation Surrogate % Recovery		78	
	Benzo[k]fluoranthene	ND	0.1	#2 Fractionation Surrogate % Recovery		79	
	Chyrsene	ND	0.2				
	Dibenzo[a,h]anthracene	ND	0.2				
	Fluoranthene	ND	0.2				
	Fluorene	ND	0.2				
	Indeno(1,2,3-cd)pyrene	ND	0.2				
	Pyrene	ND	0.2				
	Benzo[g,h,i]perylene	ND	0.2				

[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.

ND = Not detected above MRL
N/A = Not applicable
DL = Surrogate diluted out of calibration range

Approved by: _____ Date: 4/21/98

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Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270 (SIM)

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-4D
Date Sampled: 4/8/98
Date Received: 4/9/1998
Date Extracted: 4/13/1998

ESS Project ID: 980957
ESS Sample ID: 980957-05
Date Analyzed: 4/16/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Aqueous
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3510
% Moisture (Soil): 0

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/l	RESULT	MRL	Units:	mg/l	RESULT	MRL
Diesel PAH Analytes	Naphthalene	0.37	0.2	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	0.5
	2-Methylnaphthalene	ND	0.2	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	0.5
	Phenanthrene	ND	0.2	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	0.5
	Acenaphthylene	ND	0.2	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	0.5
Other PAH Target Analytes	Acenaphthene	ND	0.2	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	0.2	Aliphatic Surrogate % Recovery		69	
	Benzo[a]anthracene	ND	0.2	Aromatic Surrogate % Recovery		100	
	Benzo[a]pyrene	ND	0.2	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	ND	0.2	#1 Fractionation Surrogate % Recovery		78	
	Benzo[k]fluoranthene	ND	0.1	#2 Fractionation Surrogate % Recovery		79	
	Chyrsene	ND	0.2	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	0.2				
	Fluoranthene	ND	0.2				
	Fluorene	ND	0.2				
	Indeno(1,2,3-cd)pyrene	ND	0.2	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Pyrene	ND	0.2				
	Benzo[g,h,i]perylene	ND	0.2				

ND = Not detected above MRL
N/A = Not applicable
DL = Surrogate diluted out of calibration range

Approved by: _____ Date: 4/21/98

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Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-5
Date Sampled: 4/8/98
Date Analyzed: 4/10/1998

ESS Project ID: 980957
ESS Sample ID: 980957-06
Dilution Factor: 1
Units: µg/L
Analyst: MB

Parameter	Result	MRL
Dichlorofluoromethane	ND	1
Chloromethane	ND	1
Vinyl Chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	1
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
Chloroform	5	1
1,1,1-Trichloroethane	1	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	13	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
2-Chloroethylvinyl ether	ND	10
Cis-1,3-Dichloropropene	ND	1
Trans-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	ND	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/21/98

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CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270 (SIM)

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-5
Date Sampled: 4/8/98
Date Received: 4/9/1998
Date Extracted: 4/13/1998

ESS Project ID: 980957
ESS Sample ID: 980957-06
Date Analyzed: 4/16/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Aqueous
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3510
% Moisture (Soil): 0

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/l	RESULT	MRL	Units:	mg/l	RESULT	MRL
Diesel PAH Analytes	Naphthalene	ND	0.2	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	0.5
	2-Methylnaphthalene	0.27	0.2	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	0.5
	Phenanthrene	0.72	0.2	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	0.5
	Acenaphthylene	ND	0.2	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	0.5
Other PAH Target Analytes	Acenaphthene	ND	0.2	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	0.2	Aliphatic Surrogate % Recovery		76	
	Benzo[a]anthracene	0.26	0.2	Aromatic Surrogate % Recovery		101	
	Benzo[a]pyrene	0.24	0.2	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	0.28	0.2	#1 Fractionation Surrogate % Recovery		89	
	Benzo[k]fluoranthene	ND	0.1	#2 Fractionation Surrogate % Recovery		94	
	Chyrsene	0.26	0.2	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	0.2				
	Fluoranthene	0.66	0.2				
	Fluorene	ND	0.2				
	Indeno(1,2,3-cd)pyrene	ND	0.2	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Pyrene	0.58	0.2				
	Benzo[g,h,i]perylene	ND	0.2				

ND = Not detected above MRL
N/A = Not applicable
DL = Surrogate diluted out of calibration range

Approved by: _____ Date: 4/21/98

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CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-6
Date Sampled: 4/8/98
Date Analyzed: 4/10/1998

ESS Project ID: 980957
ESS Sample ID: 980957-07
Dilution Factor: 1
Units: µg/L
Analyst: MB

Parameter	Result	MRL
Dichlorofluoromethane	ND	1
Chloromethane	ND	1
Vinyl Chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene Chloride	8 B	1
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
Chloroform	8	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	ND	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
2-Chloroethylvinyl ether	ND	10
Cis-1,3-Dichloropropene	ND	1
Trans-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	ND	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

B = Present in associated method blank.

ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/21/98

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CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-7
Date Sampled: 4/8/98
Date Analyzed: 4/10/1998

ESS Project ID: 980957
ESS Sample ID: 980957-08
Dilution Factor: 1
Units: µg/L
Analyst: MB

Parameter	Result	MRL
Dichlorofluoromethane	ND	1
Chloromethane	ND	1
Vinyl Chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene Chloride	ND	1
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	ND	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
2-Chloroethylvinyl ether	ND	10
Cis-1,3-Dichloropropene	ND	1
Trans-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	2	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/21/98

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CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270 (SIM)

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: MW-7
Date Sampled: 4/8/98
Date Received: 4/9/1998
Date Extracted: 4/13/1998

ESS Project ID: 980957
ESS Sample ID: 980957-08
Date Analyzed: 4/16/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Aqueous
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3510
% Moisture (Soil): 0

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/l	RESULT	MRL	Units:	mg/l	RESULT	MRL
Diesel PAH Analytes	Naphthalene	ND	0.2	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	0.5
	2-Methylnaphthalene	ND	0.2	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	0.5
	Phenanthrene	ND	0.2	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	0.5
	Acenaphthylene	ND	0.2	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	0.5
Other PAH Target Analytes	Acenaphthene	ND	0.2	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	0.2	Aliphatic Surrogate % Recovery		68	
	Benzo[a]anthracene	ND	0.2	Aromatic Surrogate % Recovery		95	
	Benzo[a]pyrene	ND	0.2	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	ND	0.2	#1 Fractionation Surrogate % Recovery		51	
	Benzo[k]fluoranthene	ND	0.1	#2 Fractionation Surrogate % Recovery		78	
	Chyrsene	ND	0.2	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	0.2				
	Fluoranthene	ND	0.2				
	Fluorene	ND	0.2				
	Indeno(1,2,3-cd)pyrene	ND	0.2	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Pyrene	ND	0.2				
	Benzo[g,h,i]perylene	ND	0.2				

ND = Not detected above MRL
N/A = Not applicable
DL = Surrogate diluted out of calibration range

Approved by: _____ Date: 4/21/98

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QUALITY CONTROL SECTION

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS AQUEOUS SURROGATE RECOVERY

Client: **Resource Controls**

Client Project ID: **Taunton/Woodbine** ESS Project ID: **980957**

Sample ID	DCE# %	TOL# %	BFB# %
VMB041098B1	95	95	92
980957-01	92	95	91
980957-01 (10x)	94	95	91
980957-02	93	96	95
980957-02 (25x)	95	94	91
980957-03	95	95	91
980957-04	95	95	91
980957-04 (25x)	97	94	91
980957-05	95	98	96
980957-05 (25x)	100	94	92
980957-06	96	95	93
980957-07	92	93	92
980957-08	96	93	93

 # Column to be used to flag recovery values with an asterisk when outside the quality control range.

DCE = 1,2 DICHLOROETHANE-D4 (76-112%)
TOL = TOLUENE-D8 (89-103%)
BFB = BROMOFLUOROBENZENE (88-104%)

Approved by: _____ Date: 4/23/98

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CERTIFICATE OF ANALYSIS

VOLATILE ORGANICS
EPA METHOD 8010 BY EPA METHOD 8260 LOW LEVEL

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: Method Blank
Date Sampled: N/A
Date Analyzed: 4/10/1998

ESS Project ID: 980957
ESS Sample ID: VMB041098B1
Dilution Factor: 1
Units: µg/L
Analyst: MB

Parameter	Result	MRL
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl Chloride	ND	1
Bromomethane	ND	1
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Methylene Chloride	2	1
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
1,1,1-Trichloroethane	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloroethane	ND	1
Trichloroethene	ND	1
1,2-Dichloropropane	ND	1
Bromodichloromethane	ND	1
2-Chloroethylvinyl ether	ND	10
Cis-1,3-Dichloropropene	ND	1
Trans-1,3-Dichloropropene	ND	1
1,1,2-Trichloroethane	ND	1
Tetrachloroethene	ND	1
Dibromochloromethane	ND	1
Chlorobenzene	ND	1
Bromoform	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1

N/A = Not Applicable
ND = Not Detected above Method Reporting Limit (MRL)

Approved by: _____ Date: 4/10/98

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EXTRACTABLE PETROLEUM HYDROCARBON (EPH) ANALYSIS
METHOD FOR RANGES: MADEP EPH 98-1
METHOD FOR TARGET ANALYTES: 8270 (SIM)

Client: Resource Controls
Client Project ID: Taunton / Woodbine
Client Sample ID: Method Blank
Date Sampled: N/A
Date Received: N/A
Date Extracted: 4/13/1998

ESS Project ID: 980957
ESS Sample ID: 0413-B4
Date Analyzed: 4/16/1998
F1 Dilution Factor: 1
F2 Dilution Factor: 1
Analyst: JAR

SAMPLE INFORMATION

Matrix: Soil
Container: Satisfactory
Aqueous Preservative: None

Temperature: See Chain
Extraction Method: 3510
% Moisture (Soil): 0

EPH ANALYTICAL RESULTS

EPH Surrogate Standard ID				EPH Fractionation Surrogate ID			
WHY122497B				WHY022798A			
Target Analytes				**Range Analytes**			
Units:	ug/l	RESULT	MRL	Units:	mg/l	RESULT	MRL
Diesel PAH Analytes	Naphthalene	ND	0.2	F1: C_9-C_{18} Aliphatic Hydrocarbons[1]		ND	0.5
	2-Methylnaphthalene	ND	0.2	F1: C_{19}-C_{36} Aliphatic Hydrocarbons[1]		ND	0.5
	Phenanthrene	ND	0.2	F2: C_{11}-C_{22} Aromatic Hydrocarbons[1,2]		ND	0.5
	Acenaphthylene	ND	0.2	F2: Unadjusted C_{11}-C_{22} Aromatics[1]		ND	0.5
Other PAH Target Analytes	Acenaphthene	ND	0.2	**Sample Surrogate Acceptance Range: 40-140%**			
	Anthracene	ND	0.2	Aliphatic Surrogate % Recovery		77	
	Benzo[a]anthracene	ND	0.2	Aromatic Surrogate % Recovery		93	
	Benzo[a]pyrene	ND	0.2	**Fractionation Surrogate Acceptance Range: 60-140%**			
	Benzo[b]fluoranthene	ND	0.2	#1 Fractionation Surrogate % Recovery		77	
	Benzo[k]fluoranthene	ND	0.1	#2 Fractionation Surrogate % Recovery		94	
	Chyrsene	ND	0.2	[1] Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.			
	Dibenzo[a,h]anthracene	ND	0.2				
	Fluoranthene	ND	0.2				
	Fluorene	ND	0.2				
	Indeno(1,2,3-cd)pyrene	ND	0.2	[2] C_{11}-C_{22} Aromatic Hydrocarbons exclude the concentrations of PAH Target Analytes.			
	Pyrene	ND	0.2				
	Benzo[g,h,i]perylene	ND	0.2				

ND = Not detected above Method Reporting Limit (MRL)
N/A = Not applicable
DL = Sample diluted out of calibration range

Approved by: _____ Date: 4/23/98

185 Frances Avenue, Cranston, RI 02910-9975 Tel. (401) 461-7181 Fax (401) 461-4486

ESS LABORATORY CERTIFICATIONS

Rhode Island: 179

Connecticut: PH-0750

Maine: RI002

Massachusetts: M-RI002

New Hampshire:
Drinking Water: 242498-A
Wastewater: 242498-B

New Jersey: 78002

New York: 11313
Environmental Analysis/Water:101770
Solid and Hazardous Waste: 101770

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486

CHAIN OF CUSTODY

Page 1 of 1

Turn Time: ___Standard (2 Weeks) Other 5-DAY

ESS-LAB PROJECT ID: 0957

Co. Name	Project #	Project Name
RESOURCE CONTROLS	A4640 A484 006	TAUNTON/WOODBINE

Contact Person	Address
PAT CORCORAN	474 BROADWAY

City	State	Zip	Tel.
PAWTUCKET	RI	02860-1377	401 728-6860

Purchase Order #	Fax #
5097	401 727-1849

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification	Number of Containers	Type of Container	Analysis Required: VOCs (8010)	PAHs (8310)	EPH
01	4/8/98	3:45				MW-2I	4	G	✓	✓	✓
02		2:20				MW-4I	4	G	✓	✓	✓
03		4:00				MW-D	4	G	✓	✓	✓
04		2:40				MW-2D	4	G	✓	✓	✓
05		2:00				MW-4D	4	G	✓	✓	✓
06		4:15				MW-5	4	G	✓	✓	✓
07		3:00				MW-6	4	G	✓	✓	✓
08	↓	3:20				MW-7	4	G	✓	✓	✓
						~~MW-8D~~					
						~~MW-9D~~					

Container Type: P-Poly G-Glass S-Sterile V-VOA

Matrix: DW-Drinking Water S-Solid GW-Ground Water WW-Wastewater

Seals Intact: ___Yes ___No

Cooler Temp: 6.0

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	4/8 15:00	[signature]	4/9/98 1520	[signature]	4/9/98 1535	[signature]	4/9/98 1535
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

1 (White) Lab Copy 2 (Canary) Client Receipt

APPENDIX E

Water Well Survey

May 5, 1998

On May 1, 1998 a survey was made of the following addresses to determine if any well water was being used.

17 Oak Ave.	Amaro Murteira
18 Oak Ave.	Allen F. Macedo
30 Oak Ave.	Brenda J. Costa
20 Belvoir Ave.	Michael MacMillan
22 Oak Ave.	Sebastiane Ferris

A site visit was made at each address and a physical inspection determined that all properties used the Municipal Water Supply.

Sincerely,

Paul K. Donnelly
Inspector of Plumbing

FirstName	LastName	Address1	Address2	City	State	PostalCode
Roland H	Goff	2 Oak Ave	2 Oak Ave	Taunton	MA	02780
Walter J & Sandra J	Gajdascz	1 1/2 Cliff Dr	8 Oak Ave	Assonet	MA	02702
Donald M & Donna	Lewis	10 Oak Ave	10 Oak Ave	Taunton	MA	02780
John T & Susan E	Vachon	14 Oak Ave	14 Oak Ave	Taunton	MA	02780
Amaro & Lina	Murteira	12 Wilson St	17 Oak Ave	Taunton	MA	02780
Allan F	Macedo	18 Oak Ave	18 Oak Ave	Taunton	MA	02780
Lawrence H	Caverio	19 Bayview Ave	23 Oak Ave	Berkley	MA	02779
Richard J & Corinne F	Lima	25 Oak Ave	25 Oak Ave	Taunton	MA	02780
Scot & Jean	Anderson	27 Oak Ave	27 Oak Ave	Taunton	MA	02780
Sandra LB	Alves	29 Oak Ave	29 Oak Ave	Taunton	MA	02780
Brenda J	Costa	30 Oak Ave	30 Oak Ave	Taunton	MA	02780
SE & AM	Gotham	6 Belvoir Ave	6 Belvoir Ave	Taunton	MA	02780
Antonio & Maria	Vieira	13 Belvoir Ave	13 Belvoir Ave	Taunton	MA	02780
Barbara	Hultman	14 Belvoir Ave	14 Belvoir Ave	Taunton	MA	02780
ED & M & G & T	Hebert	27 Crane Ave S	16 Belvoir Ave	Taunton	MA	02780
ML & JV	Pratt	16 R Belvoir Ave	16 R Belvoir Ave	Taunton	MA	02780
RJ Jr & PL	McClellan	18 Belvoir Ave	18 Belvoir Ave	Taunton	MA	02780
Michael & Theresa	MacMillan	20 Belvoir Ave	20 Belvoir Ave	Taunton	MA	02780
Leonel	Rose	4 Woodbine St	Woodbine St	Taunton	MA	02780
Taunton Housing Authority		30 Olney St	Oak Court	Taunton	MA	02780
Gilbert F	Simmons	913 Courier St	15 Oak Ave	Vero Beach	FL	32966-8761
Sebastiane	Ferris	22 Oak Ave	22 Oak Ave	Taunton	MA	02780

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 • FAX (508) 821-1059

March 23, 1998

Barbara Hultman
14 Belvoir Ave
Taunton MA 02780

RE: 14 Belvoir Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☒ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☒ NO
3. Is the water well used for agricultural purposes? ☐ YES ☒ NO
4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☒ NO
5. Is the water well used for drinking water purposes? ☒ YES ☐ NO

Thank you for your assistance. Please place the completed survey in the attached envelope and send to Mr. Paul Donnelly, City of Taunton, City Hall, 15 Summer Street, Taunton, MA 02780, (508) 821-1015. Again, thank you.

Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works
WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 FAX (508) 821-1059

Scot & Jean Anderson
27 Oak Ave
Taunton MA 02780

March 23, 1998

RE: 27 Oak Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO

3. Is the water well used for agricultural purposes? ☐ YES ☐ NO

4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO

5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

Thank you for your assistance. Please place the completed survey in the attached envelope and send to Mr. Paul Donnelly, City of Taunton, City Hall, 15 Summer Street, Taunton, MA 02780, (508) 821-1015. Again, thank you.

Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 • FAX (508) 821-1059

RJ Jr & PL McClellan
18 Belvoir Ave
Taunton MA 02780

March 23, 1998

RE: 18 Belvoir Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO
3. Is the water well used for agricultural purposes? ☐ YES ☑ NO
4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☑ NO
5. Is the water well used for drinking water purposes? ☐ YES ☑ NO

Thank you for your assistance. Please place the completed survey in the attached envelope and send to Mr. Paul Donnelly, City of Taunton, City Hall, 15 Summer Street, Taunton, MA 02780, (508) 821-1015. Again, thank you.

Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 • FAX (508) 821-1059

March 23, 1998

Roland H Goff
2 Oak Ave
Taunton MA 02780

RE: 2 Oak Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☑ NO

3. Is the water well used for agricultural purposes? ☐ YES ☑ NO

4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☑ NO

5. Is the water well used for drinking water purposes? ☐ YES ☑ NO

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Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 FAX (508) 821-1059

March 23, 1998

Leonel Rose
4 Woodbine St
Taunton MA 02780

RE: Woodbine St

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☐ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO

3. Is the water well used for agricultural purposes? ☐ YES ☐ NO

4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO

5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

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Very Truly Yours,

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Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 • FAX (508) 821-1059

Lawrence H Caverio
19 Bayview Ave
Berkley MA 02779

March 23, 1998

RE: 23 Oak Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO
3. Is the water well used for agricultural purposes? ☐ YES ☐ NO
4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO
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CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 • FAX (508) 821-1059

March 23, 1998

ED & M & G & T Hebert
27 Crane Ave S
Taunton MA 02780

RE: 16 Belvoir Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO

3. Is the water well used for agricultural purposes? ☐ YES ☐ NO

4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO

5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

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Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 • FAX (508) 821-1059

March 23, 1998

ML & JV Pratt
16 R Belvoir Ave
Taunton MA 02780

RE: 16 R Belvoir Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

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---

2. Is the water well currently in use? ☐ YES ☐ NO

3. Is the water well used for agricultural purposes? ☐ YES ☐ NO

4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO

5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

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Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 • FAX (508) 821-1059

Richard J & Corinne F Lima
25 Oak Ave
Taunton MA 02780

March 23, 1998

RE: 25 Oak Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO

3. Is the water well used for agricultural purposes? ☐ YES ☐ NO

4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO

5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

Thank you for your assistance. Please place the completed survey in the attached envelope and send to Mr. Paul Donnelly, City of Taunton, City Hall, 15 Summer Street, Taunton, MA 02780, (508) 821-1015. Again, thank you.

Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 • FAX (508) 821-1059

Antonio & Maria Vieira
13 Belvoir Ave
Taunton MA 02780

March 23, 1998

RE: 13 Belvoir Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO

3. Is the water well used for agricultural purposes? ☐ YES ☐ NO

4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO

5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

Thank you for your assistance. Please place the completed survey in the attached envelope and send to Mr. Paul Donnelly, City of Taunton, City Hall, 15 Summer Street, Taunton, MA 02780, (508) 821-1015. Again, thank you.

Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 FAX (508) 821-1059

Taunton Housing Authority
30 Olney St
Taunton MA 02780

March 23, 1998

RE: Oak Court

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☒ NO

If the answer to Question 1 is YES, please answer the following question:

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5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

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Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL (508) 821-1045 • FAX (508) 821-1059

Walter J & Sandra J GajdaszCz
1 1/2 Cliff Dr
Assonet MA 02702

March 23, 1998

RE: 8 Oak Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO

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5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

Thank you for your assistance. Please place the completed survey in the attached envelope and send to Mr. Paul Donnelly, City of Taunton, City Hall, 15 Summer Street, Taunton, MA 02780, (508) 821-1015. Again, thank you.

Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 • FAX (508) 821-1059

March 23, 1998

SE & AM Gotham
6 Belvoir Ave
Taunton MA 02780

RE: 6 Belvoir Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☒ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO

3. Is the water well used for agricultural purposes? ☐ YES ☐ NO

4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO

5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

Thank you for your assistance. Please place the completed survey in the attached envelope and send to Mr. Paul Donnelly, City of Taunton, City Hall, 15 Summer Street, Taunton, MA 02780, (508) 821-1015. Again, thank you.

Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 • FAX (508) 821-1059

Gilbert F Simmons
913 Courier St
Vero Beach FL 32966-8761

March 23, 1998

RE: 15 Oak Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO

3. Is the water well used for agricultural purposes? ☐ YES ☐ NO

4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO

5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

Thank you for your assistance. Please place the completed survey in the attached envelope and send to Mr. Paul Donnelly, City of Taunton, City Hall, 15 Summer Street, Taunton, MA 02780, (508) 821-1015. Again, thank you.

Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 FAX (508) 821-1059

March 23, 1998

John T & Susan E Vachon
14 Oak Ave
Taunton MA 02780

RE: 14 Oak Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☒ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO

3. Is the water well used for agricultural purposes? ☐ YES ☐ NO

4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO

5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

Thank you for your assistance. Please place the completed survey in the attached envelope and send to Mr. Paul Donnelly, City of Taunton, City Hall, 15 Summer Street, Taunton, MA 02780, (508) 821-1015. Again, thank you.

Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 • FAX (508) 821-1059

Donald M & Donna Lewis
10 Oak Ave
Taunton MA 02780

March 23, 1998

RE: 10 Oak Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☐ NO

3. Is the water well used for agricultural purposes? ☐ YES ☐ NO

4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO

5. Is the water well used for drinking water purposes? ☐ YES ☐ NO

Thank you for your assistance. Please place the completed survey in the attached envelope and send to Mr. Paul Donnelly, City of Taunton, City Hall, 15 Summer Street, Taunton, MA 02780, (508) 821-1015. Again, thank you.

Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

Department of Public Works

WATER DIVISION
CITY HALL
TAUNTON, MA 02780-3430
TEL. (508) 821-1045 FAX (508) 821-1059

March 23, 1998

Sandra LB Alves
29 Oak Ave
Taunton MA 02780

RE: 29 Oak Ave

Dear Customer:

The City of Taunton Water Department is conducting a survey of well water usage in the City of Taunton. As part of our survey, we request your assistance by spending a moment of your time completing the following brief questionnaire.

---

1. Is a water well located on your property? ☐ YES ☑ NO

If the answer to Question 1 is YES, please answer the following question:

---

2. Is the water well currently in use? ☐ YES ☑ NO
3. Is the water well used for agricultural purposes? ☐ YES ☑ NO
4. Is the water well used for other non-drinking water purposes: (for example, swimming pool, washing cars, watering lawns) ☐ YES ☐ NO
5. Is the water well used for drinking water purposes? ☐ YES ☑ NO

Thank you for your assistance. Please place the completed survey in the attached envelope and send to Mr. Paul Donnelly, City of Taunton, City Hall, 15 Summer Street, Taunton, MA 02780, (508) 821-1015. Again, thank you.

Very Truly Yours,

CITY OF TAUNTON

Paul Donnelly

cc: Roger Roache, Superintendent

APPENDIX F

Additional Limitations

ADDITIONAL LIMITATIONS

1. The observations described in this Report were made under the conditions stated herein. The conclusions presented in the Report are based solely upon the services described therein and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in the Report was carried out in accordance with our Proposal and Associated Statement of Additional Terms and Conditions.

2. In preparing the Report, Resource Controls has relied on certain information provided by state and local officials and other parties referenced therein and on information contained in the files of state and/or local agencies available to Resource Controls at the time of the site evaluation. Although there may have been some degree of overlap in the information provided by the various sources, Resource Controls did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this site assessment.

3. Observations and explorations were made of the site as indicated within the Report. Where access to portions of the site were unavailable or limited, Resource Controls renders no opinion as to the presence of hazardous materials or oil, or to the presence of indirect evidence relating to hazardous materials or oil, in that portion of the site or structure. In addition, Resource Controls renders no opinion as to the presence of hazardous materials, oil or asbestos or to the presence of indirect evidence relating to hazardous materials or oil, where direct observation of the interior walls, floor, or ceiling of a structure on a site was obstructed by objects or coverings on or over these structures.

4. The purpose of this Report was to assess the physical and chemical characteristics of the subject site with respect to the presence in the environment of hazardous materials or oil. No specific attempt was made to check the compliance of present or past owners or operators of the site with federal, state or local laws and regulations, environmental or otherwise.

5. Except as noted within the text of this Report, no quantitative laboratory testing was performed as part of this evaluation. Where such analyses have been conducted by an outside laboratory, Resource Controls has relied upon the data provided and has not conducted an independent third party evaluation of the reliability of this data.

6. Chemical analyses performed for specific parameters during the course of studies have been used, in part, as a basis for determining the areas of environmental concern. Additional chemical constituents not searched for may be present in soil and/or groundwater at the site. Defined areas of environmental concern do not cover the potential additional constituents.

7. Governmental agencies' interpretations, requirements and enforcement policies may impact the type and scope of any site remediation beyond that provided in the estimate. In addition, statutes, rules and regulations may be legislatively changed and inter-agency and intra-agency policies may be changed from present practice. If such changes occur, it may be necessary to re-evaluate their impact on the scope for site remediation.

8. Water level readings have been made in the test pits, boring and/or wells and under conditions stated on the logs. This data has been reviewed and interpretations have been made in the text of this Report. However, it must be noted that fluctuations in the level of groundwater may occur due to variations in rainfall, temperature and other factors different from those prevailing at the time measurements were made.

"F:\STANDARD\REPORTS\ADDLIMS"